

WONDERS *of* THE PAST

Second Volume

J. A. HAMMERTON

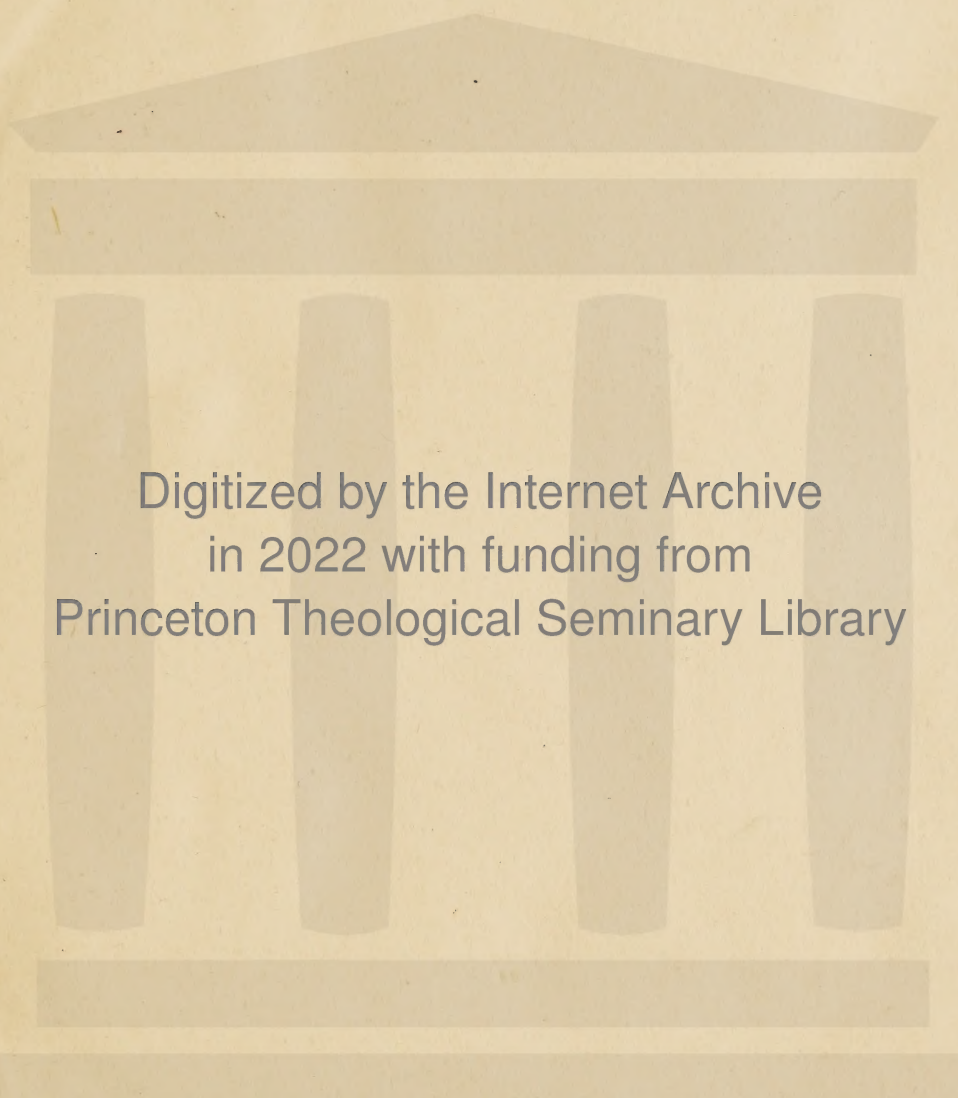
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BEAUTIFUL RECONSTRUCTION OF THE HANGING GARDENS OF BABYLON

Of all the Seven Wonders of the Ancient World, the Hanging Gardens of Babylon have left us least, in stone or story, wherewith to build a picture of their beauty, but from what evidence there is this lovely reconstruction has been produced. The gardens have borrowed their shape from the Babylonian temple-tower: trees and flowers mass every terrace, and a circling canal gives coolness to the air. Inspired like so many mighty works by love, they were built by King Nebuchadrezzar to delight the eyes of his Median bride, but now the very site is uncertain, unless it be some vaulted remains in the north-eastern corner of the King's palace.

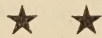
WONDERS OF THE PAST

THE ROMANCE OF ANTIQUITY AND ITS
SPLENDOURS

EDITED BY
J. A. HAMMERTON

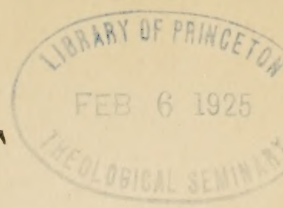
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Wonders of the Past

TEMPLES OF THE GODS. VII

THE ROCK-HEWN TEMPLES OF ELLORA

BY F. DEAVILLE WALKER

THE ROCK-HEWN TEMPLES OF ELLORA

BY F. DEAVILLE WALKER

Author of "India and Her Peoples," etc.

With Nineteen Exclusive Photographs specially taken by the Author

AMONG the rugged cliffs of Ellora, far away among the desolate mountains of Hyderabad, in Southern India, stands what is probably the finest monolith in the world—a vast temple hewn out of the living rock. It is called the Kailasa, after the celestial palace of the great Hindu god, Siva. The venerable rock temples of ancient Egypt and the red city of Petra are, strictly speaking, cave temples, for their splendid façades are their only exterior features, and their chambers cave-like excavations in the hillside. The Kailasa at Ellora is totally different from these. Though entirely rock hewn, it is in no sense a "cave" temple.

In the centre of the huge pit-like court in the mountain side from which it has been quarried, this amazing sanctuary stands separate and entire, a perfect Hindu temple, complete in every part, with the whole of its exterior exposed to view—a bewildering mass of magnificently carved pavilions, with elegant pagodas, sunlit terraces, and shady porticoes. It is not architecture; it is sculpture on a vast scale. On three sides rise the perpendicular faces of the rock from which this great temple has been cut away. Undoubtedly, the Kailasa is one of the greatest architectural achievements of India, and it deserves to be numbered among the wonders of the world.

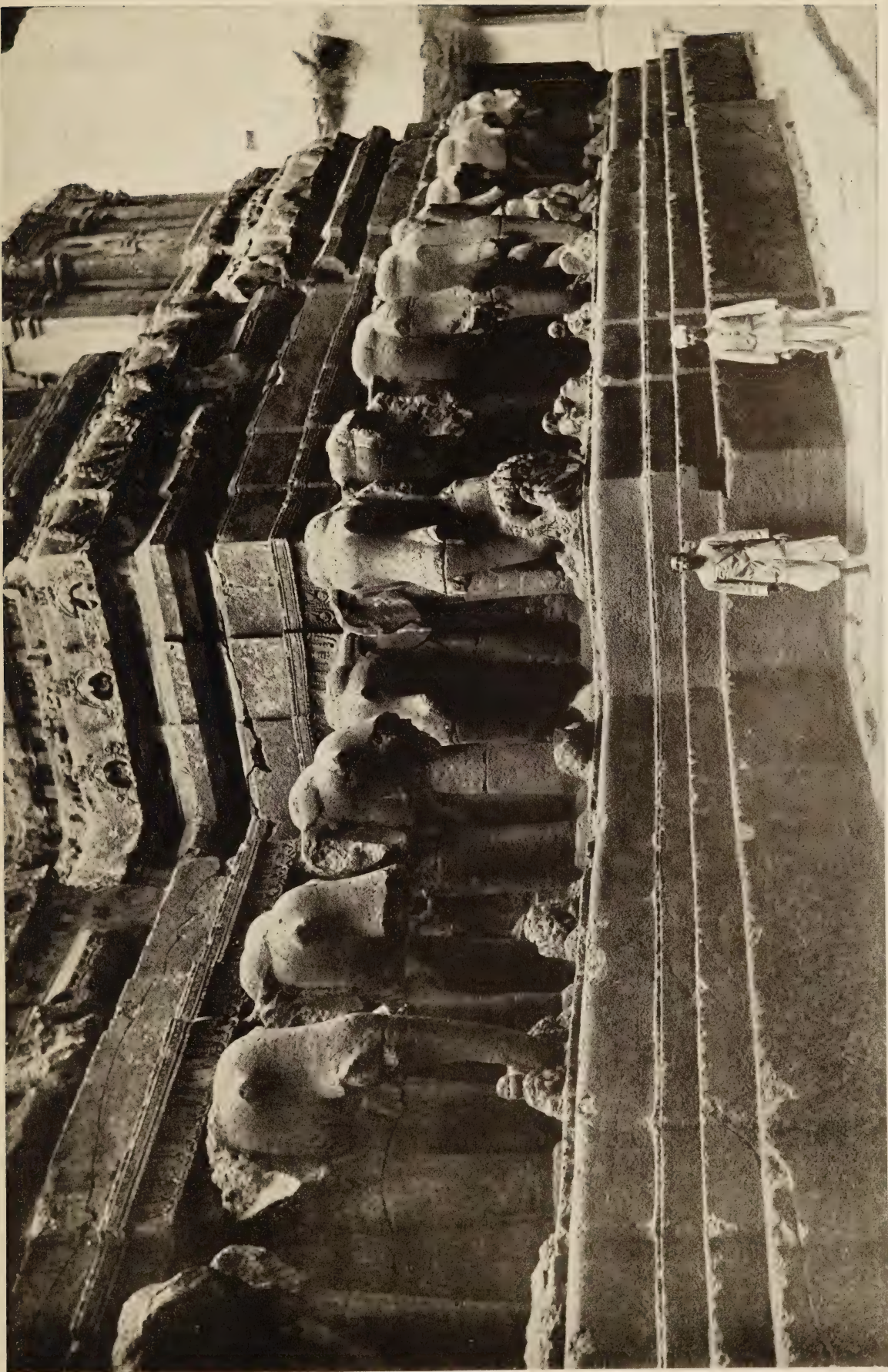
Though the Kailasa cannot claim the hoary antiquity of the great shrines of Egypt, Greece, or even of Rome, it is un-

questionably ancient, dating from the eighth century of our era. About the year A. D. 757, Krishna I., of the Rashtrakuta dynasty, completed the overthrow of the once powerful Chalukyan monarchs of South India, and made himself master of the great upland plains of the Deccan. To commemorate his victory, and as a thank-offering to his patron deity, the conqueror thereupon resolved to excavate a unique sanctuary.

The ancient Brahmans had conceived their great god Siva as dwelling in a heavenly palace far away among the inaccessible snowy peaks and glaciers of the Himalayas, and to this mythical mountain, which they called the Kailasa, the abode of their gods, the people turned with the same awe and devotion as the ancient Greeks to Mount Olympus. The victorious Krishna I. resolved to have a Kailasa on earth that should represent and symbolise in every detail the ethereal palace of the snow-capped heights where man's foot had never trod. It was as though Constantine or Charlemagne had resolved to build a cathedral to represent and symbolise the great vision of the New Jerusalem in the Book of Revelation.

As a site for his temple, Krishna I. chose a place among the mountains of the Deccan where the basaltic rocks form a high wall above a verdant valley, and rushing streams fall in beautiful cascades from the cliffs into deep ravines below. For several hundred years Ellora had been accounted sacred, and holy men had made it their abode. Yellow-robed monks of Buddha had found refuge from the rains in small caves in its rocks; as the years passed they enlarged the caves, and with ever-increasing skill excavated wonderful monasteries and chapels in the hill-side. Then, as Buddhism waned, the Brahmans began to hew out temples for their own gods near to those their Buddhist rivals were deserting. For Krishna I. the valley had an additional attraction; the rocky wall took the general form of a crescent, like the moon-crest of the god Siva, and here he resolved to create his reproduction of Siva's celestial paradise.

In excavating rock temples, the usual method is to begin with the face of a cliff and dig into it. The method pursued by Krishna's masons was to begin on the top and dig down, as did the masons of Petra (see illustration facing page 108). On the grassy uplands above the cliffs they marked out an oblong



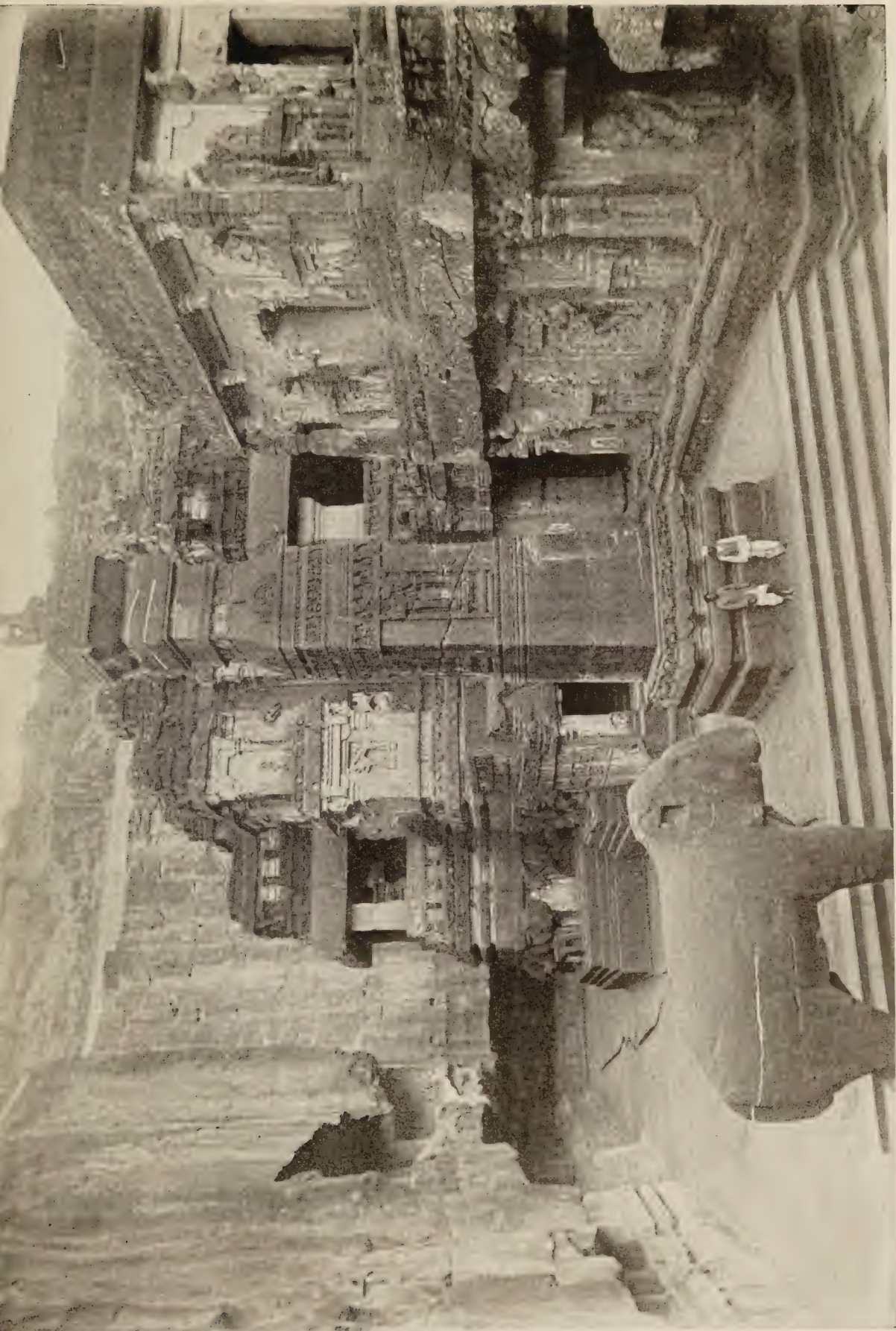
ELEPHANT FRIEZE OF THE ROCK-HEWN TEMPLE OF THE KAILASA AT ELLORA STILL SUPERB IN ITS RUIN

This is a larger view of the great rock-plinth, 27 feet high, upon which the Temple of the Kailasa stands. It is surrounded with a remarkable frieze of elephants, standing shoulder to shoulder and appearing to carry the temple upon their backs. Although most of their trunks have been broken off and all the elephants have suffered severely from the zeal of Mahomedan invaders, this superb frieze is magnificent even in its ruin, and is one of the greatest achievements of rock sculpture the world can show. The Kailasa is off the beaten track, and probably not one thousand visits this silent, long-deserted sanctuary, which, graceful as well as majestic, is unique; no photograph can do justice to it, no words adequately describe it.



IN THE SILENT COURT OF THE KAILASA TEMPLE, ELLORA

Here is seen the bridge connecting the Shrine of the Sacred Bull with the portico of the main temple. The court beyond is visible through the archway. Through the doorway to the left rock-cut steps lead up to the open terrace above. Of the two large elephants that once stood sentinel beside this doorway, only fragments remain. Remains of a small elephant frieze are on the terrace above. The wall to the left is decorated with scenes from the sacred epic poem, the "Ramayana," in low relief.



HOW HINDU MASTER CRAFTSMEN OF LONG AGO SCULPTURED THE KAILASA FROM A DECCAN MOUNTAIN TOP

The architects of this wonderful temple marked out a big, oblong space, 280 feet by 160 feet, on the top of the cliffs, and then dug deep trenches into the rock to a depth of about 150 feet, leaving an enormous central mass, from which they carved the Kailasa. The photograph shows (right) the Shrine of the Sacred Bull, with a portion of the main temple beyond. In the foreground, at the top of the rock-hewn steps, stands the second pillar, near to which is the broken fragment of a life-sized elephant. There is a corresponding one on the other side. The cliffs around the court are deeply undercut with a colonnade along which the pilgrims processed. For hundreds of years this splendid temple has been entirely deserted.



SCULPTURED CLOISTERS MIRACULOUSLY UNCRUSHED BY THE MOUNTAIN MASS

On the right stands the great Temple of the Kailasa. To the left is a portion of the colonnade that surrounds the whole court. The rock walls behind the pillars are carved in a wonderful series of great bas-reliefs. They represent the ancient mythological stories about the gods and goddesses—the attempts of peoples of bygone ages to express their conceptions of the Most High. How great must have been the devotion and the architectural daring that cut such a sanctuary from the living rock!



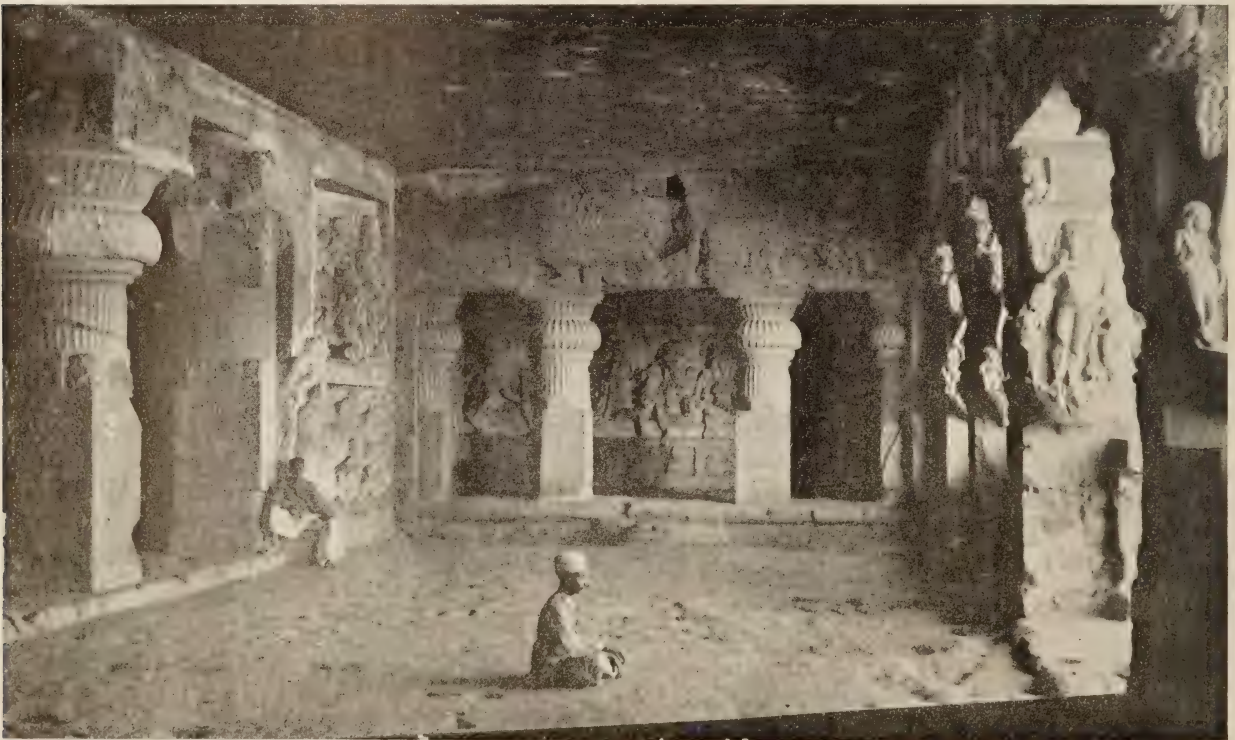
END VIEW OF THE KAILASA, SHOWING TWO OF ITS SHRINES

The principal shrine is surrounded with an open-air terrace upon which are five smaller shrines. Two of these are shown in the photograph. The one in the centre is dedicated to Siva's son, Ganesha. Another at the back of the temple and not visible, is the shrine of Siva's wife, Parvati. It occupies the exact position in relation to the central shrine that the Lady Chapel does in a Christian cathedral. The whole temple stands upon a solid plinth, 27 feet high and decorated with a splendid frieze of elephants.



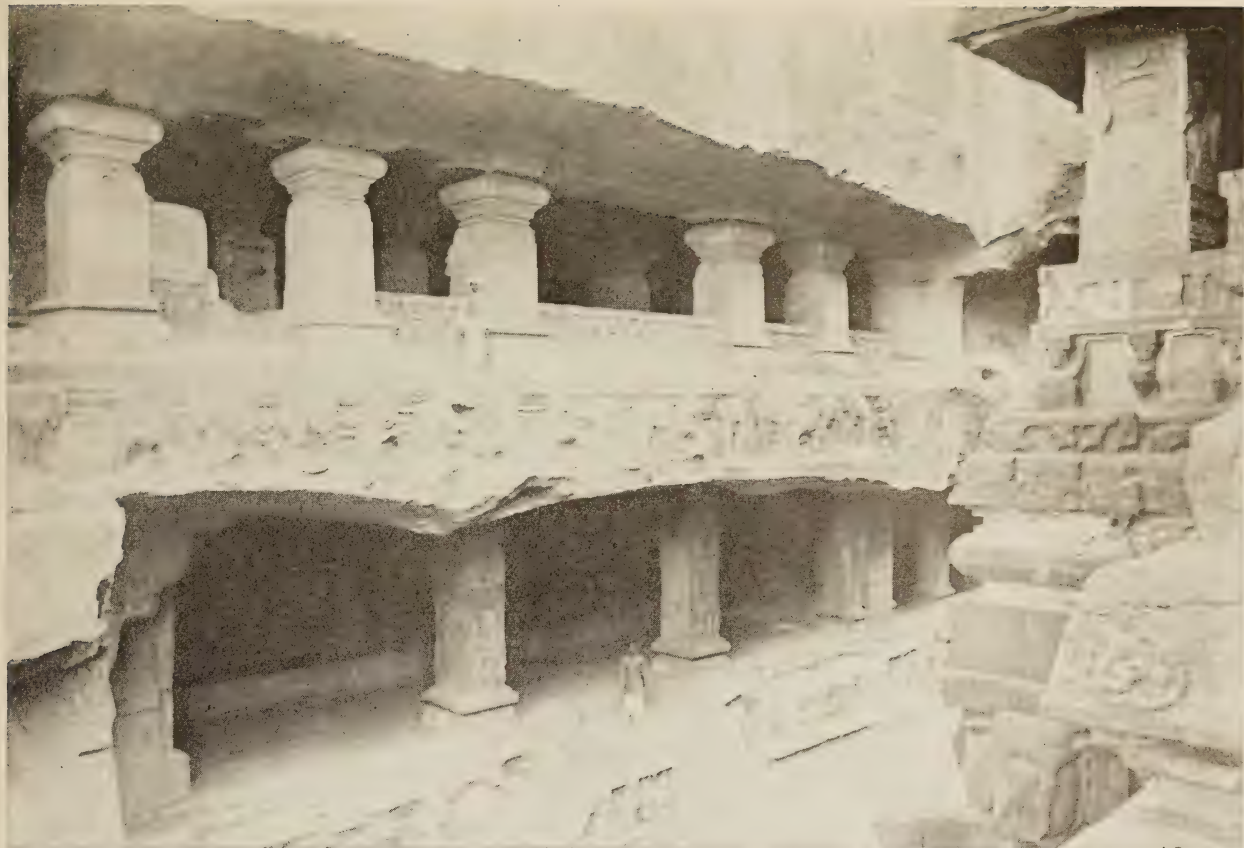
RUINED PORTICO OF THE TEMPLE OF THE MILKMAIDS AT ELLORA

As Buddhism waned, Brahmins began to excavate temples close to those that were being deserted by their Buddhist rivals. Seventeen fine temples belong to this period. This photograph shows one half of the ruined portico of the Temple of the Milkmaids. The façade, notable for its charming reliefs, has a central doorway with four window-like apertures, two on each side.



HEWN IN THE LIVING ROCK: MAIN HALL OF THE TEMPLE OF THE MILKMAIDS

Unlike the Kailasa, the Temple of the Milkmaids is a "cave" temple, i.e., a series of cave-like chambers hewn from the living rock, as, indeed, are all the remaining thirty-four temples at Ellora. This is one of the smallest of them. There is a pillared recess with bas-reliefs at each end, and the shrine is in another recess to the left.



MASSIVE COLONNADE AND PILLARED AISLE OF THE LANKESVARA CHAPEL

After the Kailasa itself was finished, a colonnade was cut in the surrounding rock. The top photograph shows (below) a small section of this colonnade. A great chapel, the Lankesvara (108 feet by 60 feet), was excavated above it. The roof is supported by twenty-seven carved pillars of exquisite workmanship. The chapel consists of a shrine-chamber, a nave, and four aisles, one of which is seen in the lower photograph. Notice the dignified simplicity and the great variety in the form of the massive pillars.



SIVA'S CELESTIAL PALACE AS SYMBOLISED BY LOVING AND DEVOUT HANDS AMID THE GREAT CLIFFS OF ELLORA

Begun about A.D. 760 by Krishna I. as a thank-offering for his victories, the Temple of the Kailasa, at Ellora, Hyderabad, is a bewildering mass of carved pavilions, with elegant pagodas, sunlit terraces, and shady porticoes. Cut from the living rock, it is wholly symbolical of the heavenly paradise of Siva. To the right of the photograph is a corner of the main temple. In the centre (connected with the temple by a rock-hewn bridge) is the Shrine of the Sacred Bull, symbol of Siva's strength. Notice the splendid monolith pillar with its elegant carvings. There is a similar one on the other side of the Shrine of the Bull. To the extreme left is a corner of the rock from which the whole temple was hewn.

measuring 280 feet by 160 feet. Along the surrounding lines of this oblong they dug long trenches into the rock to a depth of about 150 feet, thus detaching an enormous central mass from the hillside, and from this central mass they cut the Kailasa.

Imagine the difficulty of planning such a temple from above, and the skill required to carry out the plan with unfailing accuracy and exquisite detail. We do not know how many years were spent on excavating first its exterior form, then its wonderful interior halls and galleries and staircases, and then covering the whole temple, without and within, with magnificent sculpture and bas-reliefs. Nor have we means of knowing if Krishna lived to see any portions of it finished; probably he did not, for he died in A. D. 783. We should like to know how many workmen laboured at the task, how many elephants were required to cart away the rock as it was quarried from around the shrine, how many skilled sculptors worked with hammers and chisels on the decorations of its rock walls, and how many years elapsed ere they laid down their tools and their masterpiece stood complete in all its loveliness.

Then there was a pause, the length of which we do not know. When the work began again, fresh armies of masons attacked the great perpendicular cliffs that encircled three sides of the Kailasa and its surrounding court. In the face of these cliffs, a few feet above the level of the court, they cut pillared colonnades—sculptured cloisters—by which pilgrims might process round the sanctuary. At a still later date two new excavations were undertaken; in the centre of the north cliff, above the colonnade, a large chapel was hewn out—the Lankesvara—measuring 108 feet by 60 feet, the rock roof of which is supported by twenty-seven carved pillars of exquisite design (see illustration facing page 260). In the cliff to the south, a still more remarkable chapel was cut in three storeys, and connected with the Kailasa itself by a rock-hewn bridge that spanned the court. This South Chapel was never finished, and the bridge has collapsed.

To-day, after more than eleven centuries of exposure to the fierce rays of the Indian sun and the torrential rains of tropical monsoons, the Kailasa is singularly well preserved; it has suffered much more from vandals than from the destructive forces

of nature. It stands lonely and majestic, a long-deserted sanctuary. Save for a tiny village in the ravine, the whole place is uninhabited. With the exception of a Government custodian, the visitor usually finds himself alone in the silent courts, and the sound of his footsteps echoes through the long-empty chambers of the shrine. Ellora is off the beaten track, and probably not one tourist in ten thousand visits this amazing temple. Yet no shrine in the whole of India is more worthy of the expenditure of time and money required to explore it.

After the long dusty tonga ride over the mountains from Aurangabad or Daulatabad, the tourist descends, by a road cut in the side of the ghats, into the vale of Ellora, and after a short, hot walk stands before the entrance to the Kailasa. The entrance tower, which forms a screen to conceal the whole temple from the outer world, is cut like every other part of the temple from the solid rock; it contains a vestibule and a passage, flanked on either side by chambers on two floors. Passing through and entering the spacious court, we get our first complete view of the Kailasa, and gaze with silent awe. It is unique; nothing approaching it has ever been conceived by man. Yet it is in no sense a freak or the fantastic design of a disordered imagination. Graceful and imposing, beautiful yet vast, the Kailasa is impressive beyond words. No photographs can do justice to it; no language can adequately describe it. As we wandered through its porticoes and along its terraces, entranced by its massive strength and elegant design, we expressed amazement.

"Sahib," said our guide in solemn tones, "man did not make this unaided—the gods helped."

"You think so?" we asked.

"Sahib," answered the guide, "look around you. Could man have made a temple like this without the help of the gods?"

And as we gazed around, we realised that there was at least this much truth in our guide's contention—that a desire to please the gods was the motive that constrained men to this supreme effort; it was what Ruskin, in his "Seven Lamps of Architecture" calls "the Lamp of Sacrifice," the spirit that offers to God the best workmanship of which it is capable and the most precious things at its command simply because they are precious and because the labour entailed is great.



GUARDIANS OF THE SHRINE

This shrine in the Temple of the Milkmaids is a separate chamber with a wide passage cut entirely round, so that worshippers could perform the required perambulations. The idol, or its symbol, originally stood in the dark mysterious chamber with lamps burning before it. The great figures on either side are the guardians of the shrine.



SHRINE OF THE GREAT DHUMAR LENA CAVE

Next to the Kailasa, the Dhumar Lena is the finest of Hindu caves at Ellora. Its floor measures 149 feet, its roof rests upon twenty-six pillars, and its shrine is an independent square chamber, having a large doorway on each side, the whole being surrounded with the huge carved figures shown above.



RICHLY CARVED COLONNADE IN ONE OF THE HINDU CAVE TEMPLES AT ELLORA

The thirty-four rock-hewn temples at Ellora were carved from the mountains of the Deccan, where the basaltic cliffs form a high wall above a verdant valley, and rushing streams fall in beautiful cascades into deep ravines below. The temples stretch along the cliffs for more than a mile and a half, and exhibit remarkable variety in both plan and design. No two are alike in size or shape, and the pillars and bas-reliefs are equally varied. Compare the pillars in this colonnade with those in the other photographs.



BEAUTIFUL COURT OF THE INDRA SABHA TEMPLE, SECOND ONLY TO THE KAILASA

This photograph, taken at the back of the central shrine, shows the fine carvings in the court of the exquisite temple of Indra Sabha. Of the Brahman temples, the Dhumar Lena cave holds pride of second place, but the Indra Sabha is a Jain temple, and were it not for the surpassing grandeur of the Kailasa, would be the jewel of Ellora. Of the two halls at the back of the court, one above the other, the lower one is incomplete.



INDRA SABHA: A GEM OF JAIN ROCK CARVING

The finest of the Jain temples at Ellora is that of Indra Sabha. On a small scale, it reproduces the distinctive feature of the great Kailasa in that it has a central shrine standing independently in a square court—small, but of very fine workmanship. This photograph, taken from a dangerous position on a slippery ledge of rock, shows a corner of the little court and the graceful central shrine, a small square monolith with a doorway on each side and a fine pyramidal roof. It is in every way a gem of architecture, but owing to its situation, it is extremely difficult to take an inclusive photograph of its admirable proportions.

The first pavilion that meets the eye is one of exquisitely simple design, two storeys high and covered with carving. It is the Shrine of the Nandi, or Sacred Bull, the symbol of the strength of Siva. Rock-hewn bridges connect it with the gate-tower on one side and the main temple on the other. On either side of the hall stands a stately monolith pillar, both exactly alike, 49 feet high, of remarkable design, and surmounted by another of Siva's symbols—a trident. Near to the base of each pillar is a stone elephant, life-sized, to symbolise the rain clouds that so often gather around the snowcapped heights of the Himalayas. To the left, cut in the face of the cliff, is a small and unfinished Shrine of the River Goddesses, in the lower portico of which are large bas-reliefs of the goddesses of the three great rivers that flow from Siva's throne in the Himalayan Kailasa—Sarasvati, Ganga (the Ganges), and Jumna—and around its balcony are carved vessels of the sacred water.

Above all else towers the chief shrine of the temple, a mighty rock-hewn sanctuary, its highest pagoda rising to a height of 96 feet. It rests upon a solid plinth 27 feet high, around which is a very remarkable frieze of elephants, standing shoulder to shoulder, heads out, and giving the effect of carrying the whole temple upon their backs. Though many of their trunks have been broken off, and all the elephants have suffered severely from the zeal of Mahomedan invaders, this superb frieze is magnificent even in its ruins, and is without doubt the greatest achievement of rock sculpture the world can show.

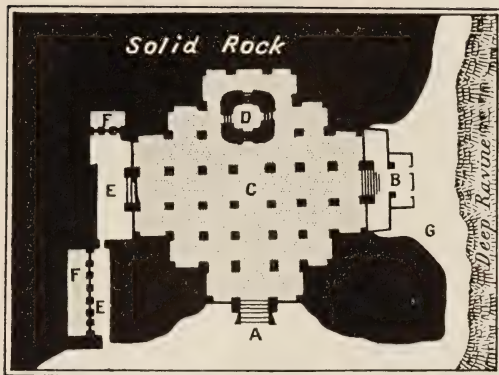
The interior of the main temple is a hall about 53 feet square, with sixteen pillars supporting the roof. From this, a beautifully sculptured doorway, approached by half a dozen steps, leads into the holy of holies, where a great lingam symbolises the presence and essential attributes of Siva himself. The sacred chamber is small and dark, as is usual in Hindu temples, the darkness symbolising the mystery in which the god dwells. Its walls of solid rock support the lofty central pagoda that surmounts the whole. A raised open-air terrace surrounds the holy place, and on this are five small side shrines, one of which is dedicated to the worship of Siva's son, Ganesha, the god of wisdom, and another (situated immediately behind the principal shrine, in the exact position of the Lady Chapel in

a Christian cathedral) is dedicated to Siva's wife, Parvati. There is not a blank wall or undecorated ceiling in the whole of the Kailasa. Huge bas-reliefs of the gods, with figures often eight feet high, confront one everywhere. Colonnades and inner chambers alike are lined with them—these strange mythological figures that symbolise the deeds and the attributes of the god.

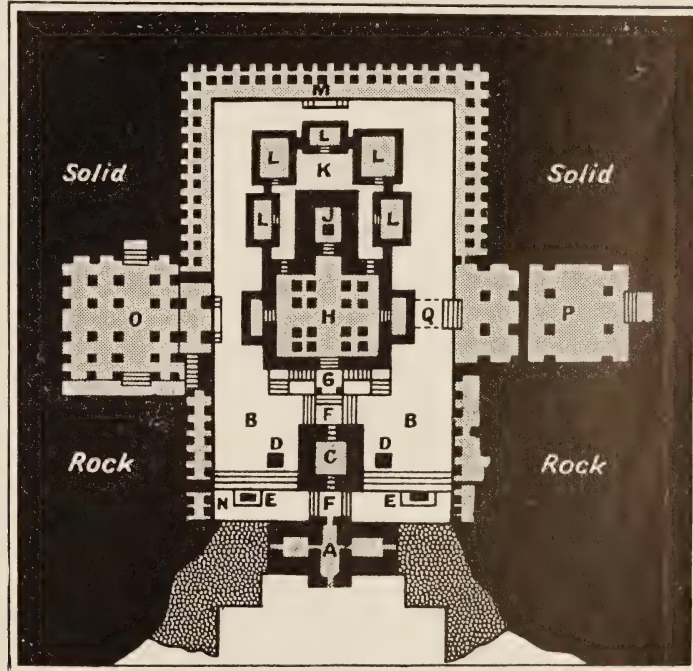
As we stand upon the high cliff above and gaze down upon this enduring monument of piety, we picture the long string of silent, barefooted worshippers that once filled its courts, processed devoutly around its colonnades, and offered their gifts before its shrine. All have gone. The courts are desolate; offerings are no longer brought; sacred lamps no longer flicker around the sacred, symbolic lingam; the inner shrine is empty. But the Kailasa itself remains—an abiding monument to the devotion of bygone ages.

Even the Kailasa does not exhaust the wonders of Ellora. It is surrounded on either side with cave temples of extraordinary beauty and interest. There are, in all, thirty-four of them, running in a row along the wall of rock for over a mile and a half. To the south end of the line are a dozen of the Buddhist period; then come seventeen Brahman temples, and beyond, five exceptionally fine ones of Jain workmanship. A week is all too short fully to explore their numerous chambers, porticoes, and mysterious recesses. In them it is possible to trace the development of rock architecture from its beginnings in the primitive Buddhist caves to the intricate planning and rich detail that distinguish the Jain period.

Of the Buddhist caves, some were monasteries, with well-cut cells for the monks and halls for common use; others were chapels for the worship of their master "the Lord Buddha." The Hindu and Jain caves are larger, more intricate, and of finer workmanship. The architect and masons had grown bolder and more skilful as the centuries passed, and they successfully carried through schemes their predecessors would not have attempted. Many of the temples have fine forecourts, and some are approached by splendid flights of rock-hewn steps and sculptured porticoes. The general plans, the arrangement of halls and colonnades, and the form of the pillars, exhibit a



A. Main entrance to Dhumar Lena Temple. B. Side entrance from deep ravine. C. Great hall with pillars. D. Chief shrine surrounded with huge figures. E. Side courts cut in rock. F. Small side shrines. G. Waterfall.



PLANS OF THE DHUMAR LENA AND KAILASA TEMPLES

These two temples are the most imposing of the Hindu remains at Ellora. Top, the Dhumar Lena; below, the Kailasa. There are also magnificent examples of Jain architecture. A. Entrance tower, Kailasa Temple. B. Open court. C. Shrine of Sacred Bull. D. Monolithic pillars. E. Monolithic elephants. F. Bridges. G. Main terrace, steps, and entrance to temple proper. H. Main hall. J. Chief shrine. K. Terrace round shrine. L. Small shrines. M. Colonnade round court. N. Shrine of River Goddesses. O. Lankesvara Chapel above colonnade. P. South Chapel. Q. Remains of bridge from South Chapel to main temple.



UNFINISHED SHRINE OF THE RIVER GODDESSES, ELLORA

In this corner of the Kailasa two stone elephants (one shown) represent the rain clouds. In the cliff is the small and unfinished Shrine of the River Goddesses. Within the lower portico are large bas-reliefs of the three great rivers that flow from Siva's throne: Sarasvati, Ganga (the Ganges), and Jumna.



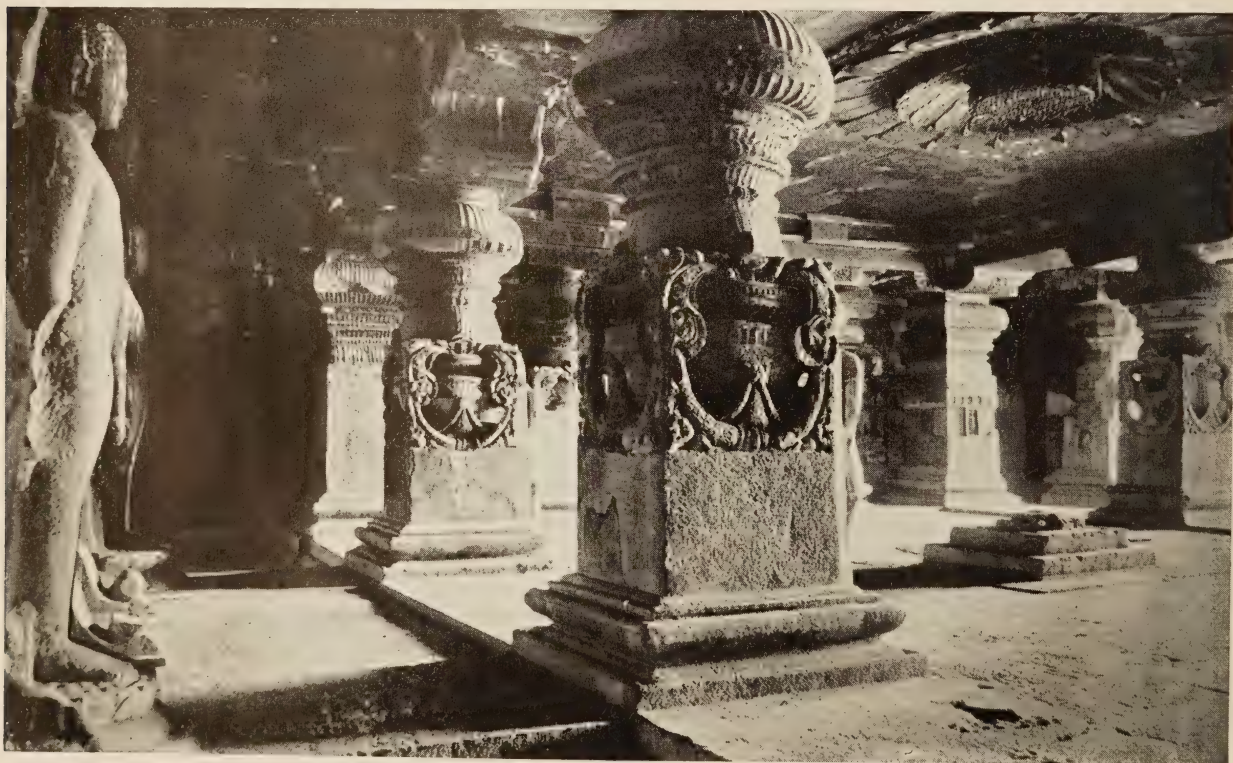
SHRINE PILLARS OF A JAIN TEMPLE AT ELLORA

The five Jain temples, richest in design of all the Ellora temples, date from 800 to 1100 A.D. These massive pillars stand before the shrine in the large hall in one of the temples. Notice the fine carving of the fluted pillars and the effective simplicity of base and capital. The entrance is seen to the left.



ONE OF THE ELABORATELY CARVED PORTICOES OF THE INDRA SABHA TEMPLE

This is an interior view of the upper portico. The pillars—four on either side—are exceptionally fine and well preserved, as is also the excellent bas-relief of the god Indra at the end of the portico. Beyond the pillars to the right is a fine chapel with surrounding pillars arranged in a square.



MAGNIFICENT PILLARED HALL OF THE INDRA SABHA TEMPLE AT ELLORA

Hewn out of the rock at the back of the court of the temple. This magnificent chamber is a large square hall with twelve splendid columns. On the ceiling is carved a sacred lotus, beneath which an idol once stood. To the extreme left are the two great stone figures that guard the principal shrine. Immediately beneath this imposing chamber is another of the same size and design.

variety of design that is truly amazing. In these great cool chambers, with their rows of splendid pillars, one pauses to meditate and wonder, and to admire the entrancing vistas of valley and waterfall through the open porticoes. As one passes from shrine to shrine, one's amazement increases and the first adjectives of excitement give place to speechless awe. But their glory has departed. The impetuous rush of Mahomedan invasion drove priests, ascetics, and worshippers from Ellora. With their traditional zeal, the invaders knocked off the heads of the gods, and smashed much of the beautiful stone carving of the temples.

Then a long period of silence settled upon this secluded spot. To-day, one treads reverently through deserted chambers, once sacred; and even those who (in the words of Queen Victoria's famous proclamation) "firmly rely on the truth of Christianity" cannot but be impressed by these marvellous temples in which the ancient peoples of India strove to express their thoughts of the Most High.



TEMPLES OF THE GODS. VIII
THE GODS OF ANCIENT GREECE

BY W. R. HALLIDAY

THE GODS OF ANCIENT GREECE

BY W. R. HALLIDAY

Professor of Ancient History in the University of Liverpool

IN the Greek pantheon were many gods, major and minor. Here we give representations of the more important, taken from authenticated statuary now preserved in the great museums. The Aphrodite (or Venus) of Milo was given in the chapter entitled "Peerless Gems of Greek Sculpture," as were the Apollo of the Belvedere and the Hermes of Praxiteles. As regards the names it is only since about the middle of the nineteenth century that these have been commonly given in Greek form, earlier English writers, the poets in particular, deriving their inspiration from the French and consequently using the Latinised forms—Venus for Aphrodite; Mercury for Hermes, etc.—EDITOR.

GREEK civilisation came into being as the result of a mixture of races. During the latter part of the second millennium B.C. a series of invasions of fair-haired Northern peoples, who were armed with iron weapons, overwhelmed the civilisation which had been built up in the Ægean area during the Bronze Age. Although it has hitherto proved impossible to decipher the writing of the people of the Bronze Age, the general character of their religious beliefs and practices is revealed by their art.

Their religion, it would seem, presented two main features. The first is the worship of a goddess of nature, who dwelt upon the mountain tops and is often represented in art between attendant lions or wild animals. Associated with her, but apparently subordinate to her, is an armed male figure representing, probably, a divine consort or lover. This goddess reminds us of a type of divinity characteristic of Anatolia in historical times, the great mother-goddess of Asia Minor, with her constant but variously named lover, Adonis, Attis, or Thammuz.

There can be little doubt that this deity of the Bronze Age affected the Greek conception of certain goddesses. In particular, Our Lady of the Wild Beasts, the Huntress Artemis, Aphrodite, and even, in certain of her aspects, Athene, are closely connected with this pre-Hellenic goddess. The place of her worship was in natural sanctuaries, caves on the mountain side, or in small shrines, which were either placed in the open air or situated within the palace of the king. In cult the divinity was represented, not by a statue, but by a sacred tree or by a pillar, which was sometimes surmounted by the sacred double axe. To this "fetish" the goddess was summoned at the moment of worship by music or by hymns of invocation, and her advent is often pictorially represented by the device of a dove settling upon the pillar.

The second prominent feature of the religion of the Bronze Age was the worship of dead chieftains. Thus, not far from Cnossus, Sir Arthur Evans discovered a royal tomb, in which the grave itself was cut in the shape of the sacred double axe blade, while the adjoining chamber was fitted with benches for worshippers, and the sacred pillar was carved in relief upon a central buttress. Scenes representing sacrifice and the dedication of offerings to a dead chieftain are depicted upon a painted sarcophagus which was discovered at Hagia Triada. This aspect of Minoan religion is of some importance, because the later development of hero-worship among the Greeks very probably represents a revival of the ancient Bronze Age cult of the noble dead.

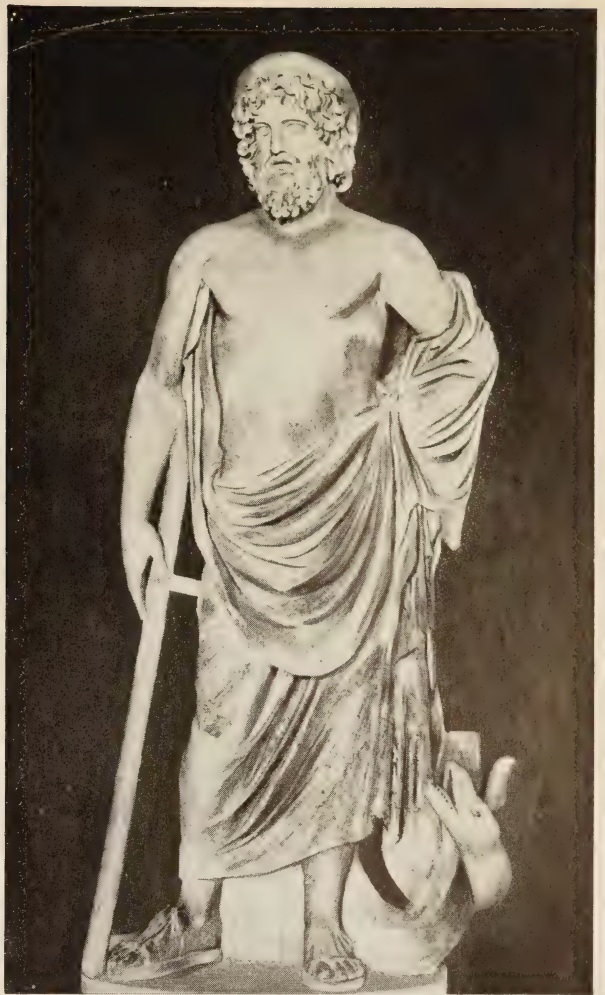
Our earliest information about Greek society is contained in the Homeric poems. Here we find a fully developed polytheism. The conception of divinity is strongly anthropomorphic. Zeus, the Father of Gods and Men, Lord of the Heavens and Wielder of the Thunderbolt, sits enthroned upon the heights of Mount Olympus surrounded by the other gods and goddesses of the pantheon. These are to some extent specialised in function (*e.g.*, Poseidon is the god of the sea, the earthquake, and of horses, Apollo is the god of music, medicine, poetry, and archery), but they are not rigidly limited in activity to their particular and appropriate sphere. Divinity is conceived on the analogy of human personality, but its nature is fairer, nobler,



Acropolis Museum, Athens. Photo by Alinari.

THE FAMOUS MOURNING ATHENE

Zeus is fabled to have had a headache: as a drastic remedy Hephaistos cleft his head with an axe, whereat Athene sprang forth armed with a battle-cry, to be the goddess of war and wisdom. Her Roman name was Minerva, and the owl was sacred to her. This relief shows her with spear and helmet.



The Louvre, Paris. Photo by Giraudon.

ASKLEPIOS, THE DEIFIED PHYSICIAN

Son of Apollo and the nymph Coronis, Asklepios is fabled to have been dowered by his father with such powers of healing that he could even raise the dead, insomuch that Zeus killed him with a thunderbolt in order to appease Aides, god of the shades. His temples were the earliest known hospitals.



The Louvre, Paris. Photo by Giraudon.

ZEUS, THE ARYAN GOD OF THE SKY AND THUNDER

The Father of Gods and Men is shown here with his eagle and his spear. Zeus, etymologically the same as Jupiter, came into Greece with the earliest Greeks; legend makes him the son of Cronos and Rhea, from whom he usurped the supreme power after a terrific struggle in which all the forces of nature were involved.



The Louvre, Paris.

HERA, IMPERIOUS CONSORT OF ZEUS

On his journey into Greece Zeus left his female counterpart, Dione, at Dodona, and wedded Hera, a pre-Hellenic goddess. She was identified with the Roman Juno (the etymological equivalent of Dione) and was represented with orb, staff, and crown, as here, and often accompanied by peacocks.



The Museum, Eleusis. Photo by Alinari.

DIONYSOS, PATRON OF THE GRAPE

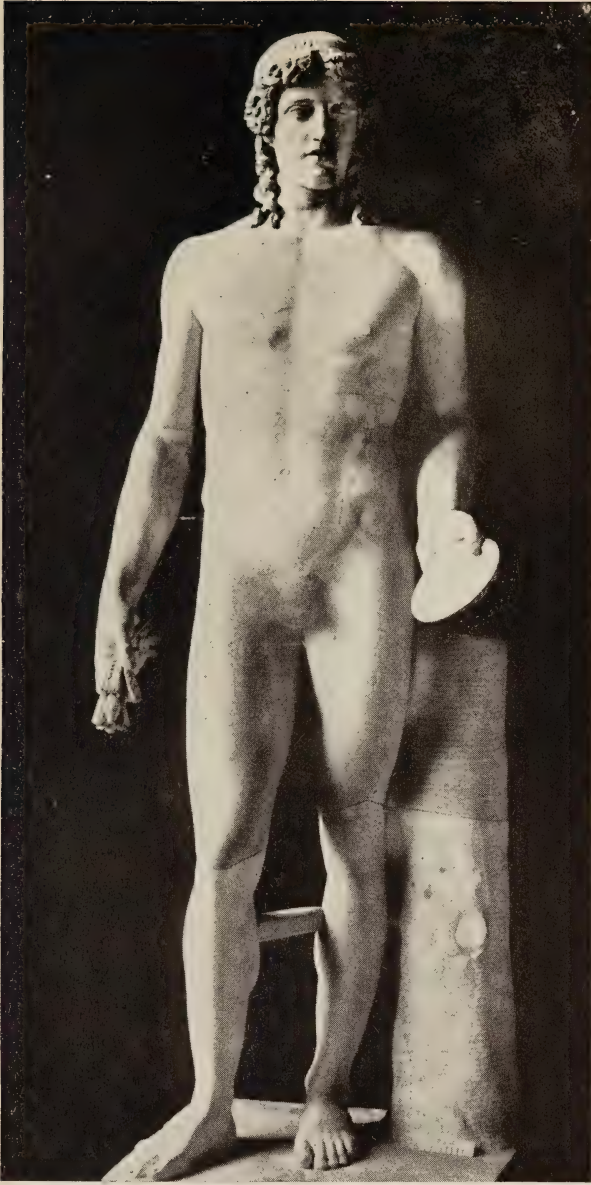
Dionysos, or Bacchus, shown here as a delicate, finely-modelled youth, kept a side to his character that was far from soft, having sinister affinities with such gods as Sabazios and Zagreus. His frenzied worship was introduced into Greece, probably from Thrace, in almost historical times.



The Louvre, Paris.

HERAKLES OF THE CLUB AND LION-SKIN

Of all the fables told of Herakles, son of Zeus and Alomene, none is better known than the tale of the twelve labours which he was forced to perform for the craven Erechtheus, King of Mycenæ, on account of the hatred borne him by Hera, the lawful wife of Zeus. The Roman Hercules, he is shown here with his son Telephos.



The Louvre, Paris. Photo by Giraudon.

APOLLO, LORD OF LIGHT AND BEAUTY

God of the sun and the sun's rays, typifying sudden death, of prophecy, poetry, music, and healing, and of all the arts and sciences, Phoebus Apollo is one of the noblest conceptions bequeathed to us by the Greek pantheon. He had flowing hair and his attributes were a bow and a lyre.



Royal Albert Museum, Dresden.

ARTEMIS, THE VIRGIN HUNTRESS

Twin sister of Apollo, Artemis, the Roman Diana, dealt death to women even as he to men. Individually she was the goddess of chastity and the chase, though she had less pleasing aspects and was even identified with the many breasted mother-goddess worshipped at Ephesus.



The Louvre, Paris.

SILENUS AND HIS YOUNG PUPIL

Dionysos is here shown in even more effeminate guise, and attended by his mentor Silenus, son of Pan. The followers of Dionysos were satyrs, or Thracian horse-divinities, whereas Pan was an Arcadian goat-divinity; but the latter was soon attracted into the Dionysiac circle.



The Louvre, Paris.

EROS, GOD OF LOVE AND LAUGHTER

Though usually known as the son of Aphrodite, Eros in some legends was the primeval god first fashioned of Chaos. He was indeed an old and mighty god, once worshipped as a stock or stone, and only later multiplied and degenerated into the playful Cupids of Græco-Roman and modern art.



Glyptothek, Munich. Photo by V. Bruckmann.

EARTH-SHAKER POSEIDON, RULER OF THE SEA, IN HIS CHARIOT WITH AMPHITRITE

A powerful god from early times, Poseidon ranked with his brothers, Zeus and Aides, by virtue of ruling one of three divisions of the universe. Zeus held sway over the sky and the world above, Poseidon over the waters, and Aides over the world below. Poseidon's attribute was a trident, and the horse was under his especial protection; Amphitrite, the best known of the Nereids, was his spouse, and is also illustrated above; and the earthquake was in his control. To the Romans he was known as Neptune.



The Museum, Naples. Photo by Brogi.

A NEREID, ONE OF POSEIDON'S TRAIN

The Nereids were nymphs of the Mediterranean; Thetis, mother of Achilles, was one, and Amphitrite. They symbolised all the phenomena of ocean—the white-capped waves, the pellucid depths, the phosphorescence. Are the mermaids of modern fairy-story their half-forgotten echoes?



Courtesy of the British Museum.

DEMETER, GODDESS OF HARVESTS

Demeter, known to the Romans as Ceres, was the goddess of corn, and more broadly of the growth and death of vegetation. It was the legend of the annual return of her daughter, Persephone, from Hades, which gave the Greeks their first hopes of a future life.

and more powerful than ours. The gods are immortal, omniscient, and almost omnipotent; almost, because from time to time emerges the idea of a Fate, which even the gods cannot alter or evade. Their omnipotence is also qualified by the rivalries, passions, and jealousies of these anthropomorphic deities, which lead to conflicting interventions in human affairs, and the general, though not undisputed, authority over the other gods, which is assigned to Zeus, is not exercised with sufficient consistency to prevent the frequent thwarting of the intentions of one god by another. Man is able to win the favour and help of these powers by sacrifice and prayer. The sacrifices are banquets in which the worshippers partake by eating the flesh of the victim.

With life after death Homeric religion is little concerned. Barrows are constructed in honour of famous chieftains, but no cult succeeds the termination of the funeral rites, which are necessary to ensure the safe and final passage of the spirit to the next world. Existence in the Halls of Hades is represented as shadowy, impotent, and unenviable—a mere empty mockery of life.

The Greeks themselves realised that the poems of Homer and Hesiod had done much to systematise their conceptions of divinity, and Homer has sometimes been called “the Greek Bible.” The latter phrase, however, may lead to misunderstanding. Ancient polytheism recognised no sacred scriptures like the Bible or the Koran; it laid no emphasis upon creed or articles of faith, belief in which was necessary to salvation; it put forward no dogma about the creation of the world; it did not deny the reality of other men’s gods. Works, not faith, was what it demanded; works, that is to say, in the sense of the punctilious performance of ritual to ensure that the community earned the favour and not the righteous enmity of the gods.

For, at least in its earlier stages, religion was social rather than individualistic. Each tribe had its peculiar god, who was often thought of as its divine ancestor. It is probable that before the invasion of Greece a process of unification had begun, and that all the northern tribes already recognised the divinity of Zeus, Poseidon, and Apollo in common. Homer and Hesiod represent the last stage in the process of synthesis of the various

tribal gods into a single common system, and in this sense they fixed the canon of the Olympian gods. Wherever Greek was spoken, their poems were recited, and the single family of divine beings described in them was accepted throughout the Greek race. This single family brought together not only gods of the different northern tribes, but some, like Aphrodite, who had been adopted from the civilisation which the Northerners had destroyed. In part, the unedifying character of Greek mythology, which soon began to perplex and perturb the moral consciousness of the Greeks themselves, may have been due to the necessities of synthesis. Many tribes equally claimed a divine descent from a particular god; the stories of the amours of Zeus and other gods with mortal women enabled these various claims to be reconciled. The weakness of anthropomorphism is obvious, with its inevitable ascription to divinity of frailties inseparable from human nature. But the Homeric gods have their good side. They represent, in fact, the ideal personifications of aristocratic virtues. They work, on the whole, for righteousness, and they are, generally speaking, nobler as well as more powerful than mortals. They are guardians of the social virtues; justice, the sanctity of the oath, the sacredness of the marriage tie are upheld by them. Their æsthetic appeal is obvious, and the whole character of their worship is genial and friendly. There have been few religions so little terrorised by ghostly fears.

In crystallising the popular conception of these personifications of nobility and beauty, art, as well as literature, played no inconsiderable part. Before the days of Homer, the unshaped pillar or "fetish" of Minoan worship had given place to the statue. Art, it is true, but gradually became articulate. The earliest images of wood were stiff and crude, and the limbs were not yet disengaged from the trunk of the figure; they were little more, in fact, than posts with features indicated upon them. But from the beginning Greek artists aimed at representing the divine in terms of human beauty. They rejected firmly all bestial forms of divinity and the creation of half-animal monstrosities like the gods of the Nile.

Increasingly as it attained a mastery of its material, art ennobled the popular religious conceptions of an artistic people. For idolatry, congenial to the Mediterranean nature, has poten-

tialities for refining and enriching the popular ideal of God through the appeal of beauty. Dion Chrysostom has thus recorded the emotion aroused by the statue of Olympian Zeus by Pheidias: "A man whose soul is utterly immersed in toil, who has suffered many disasters and sorrows, and cannot even enjoy sweet sleep, even such an one, I think, if he stood face to face with this statue, would forget all the dangers and difficulties of this mortal life."

Literature and art had worked to create a theology, if we may call it so, common to the Greek race. Other forces which worked in the same direction towards Pan-Hellenic unity were the Delphic Oracle and the institution of the Great Games. At Delphi, a very ancient oracular site, the priestess of Apollo became inspired by the god, and her utterances while thus possessed were interpreted to answer the questions of difficulty which were referred to the god by states and individuals. As a central information bureau for intending colonisers the oracle obtained, in the era of Greek colonisation, an immense prestige and a political influence, which it subsequently forfeited, at the beginning of the fifth century B.C., by its faint-hearted discouragement of patriotism when Greece was invaded by Persia. In matters of religious ordinances the god of Delphi was traditionally recognised as the final arbiter, and he was even to some extent the worthy guardian of the Greek moral conscience.

The Great Games, of which the oldest was the Olympic Festival, were periodic Pan-Hellenic religious gatherings at which athletic contests were celebrated. To these meetings all the Greek states sent representatives, and during the festival a sacred truce put an end temporarily to all inter-state quarrels, disputes, or wars. The games reached their greatest splendour in the sixth century B.C. They were naturally a powerful influence in promoting Pan-Hellenic sentiment and the consciousness of a common racial bond uniting all Greek-speaking communities.

But the Greek was essentially a "political animal," and the worship of the Olympian gods retained, as long as the city-state flourished, its social and civic character. The centrifugal forces were on the whole stronger than the centripetal in all native Greek institutions. Whatever might be the authority ascribed

to Zeus by conventional mythology, in every Greek state the peculiar object of local cult, the national god of the community, counted for more than the Father of the Gods. To some degree city-state religion developed as a religion of patriotism. Certainly to an Athenian in the age of Pericles Athens meant the ideal personification of Athene. The greatest festival of the goddess was also the celebration of her city's imperial might, when envoys from all her colonies and subject-states came to take part in the solemn procession with prescribed offerings of homage. It is this procession which is depicted upon the masterpiece of ancient sculpture in relief, the frieze with which Pheidias surrounded the beautiful Temple of Athene on the Acropolis.

Quite early, though after the Homeric poems were composed, a religious influence of foreign origin, and quite alien in spirit to the city-state religion, swept over Greece. The worship of Dionysos, the god of wine and intoxication, came probably from Thrace. It introduced the ideas of ecstasy and of identification, through sacrament, of worshipper with god. The intoxication and frenzy of its nocturnal dances, in which animals representing the god were torn in pieces and sacramentally devoured, partially and imperfectly represented the complete identification with divinity, which was the ultimate goal of religious aspirations, while the doctrine of the periodic death and resurrection of the god held promise of the resurrection of his worshippers. This emotional cult appealed peculiarly to the feminine temperament, and in spite of considerable opposition, to which the legends testify, the god, accompanied by his attendant Mænads, or Frenzied Women, advanced victoriously to the conquest of Greece. It is possible that in some localities survivals of the nature worship of the Bronze Age, with which the new cult had obvious affinities, prepared the way for the victory of Dionysos. The peculiarities of Cretan religion in classical times support the probability of this view.

Among the figures of Dionysiac legend is the musician-prophet Orpheus, and the Orphic brotherhoods may be regarded as directly a product of the Dionysiac movement. Starting from the conviction of the immortality of the soul, the Orphics regarded the body as a tomb of corruption, in which the soul was transitorily immured. They claimed to reveal to their

initiates a secret knowledge of magical liturgies, taboos, and ritual acts the performance of which would secure beatitude in the next world, while the uninitiated were condemned to wallow eternally in bottomless slime. Cardinal to their doctrine was the idea of purification. They developed a theory of posthumous reward and punishment, a concept of Purgatory, and apparently a belief in the transmigration of souls. The question as to whether the last-named doctrine owes anything to Indian speculation is a matter of dispute. Although it is denied by some scholars of great authority, I do not myself believe it impossible that it passed to the Orphics through the medium of Pythagoreanism from an Eastern source.

Orphic doctrines had affinities with the agricultural mysteries, of which the Mysteries of Eleusis are the best known. The ritual of these seems to have consisted primarily of a magical dramatic representation of the annual death of nature in winter and its rebirth in spring. But this drama of death and rebirth held promise of a similar rebirth of the mortal worshipper, and those who were privileged to become initiated into these magical secrets appear to have found in their contemplation hope of eternal bliss.

Orphism and the mystery cults represent, it will be noticed, quite a different religious attitude to that implied by the worship of the gods of the city-state. In the first place their appeal is universal, not civic or tribal. Before the end of the seventh century B.C. the "Homeric Hymn to Demeter" extends an invitation to all Greek-speaking persons, irrespective of their narrower nationality, to become initiated in the Mysteries of Eleusis. The Orphic brotherhoods and the initiates of the Mysteries thus formed religious societies, membership of which did not coincide with the membership of any political or social group. The worshipper is here regarded as an individual personality, rather than as a member of the body politic.

Again the centre of religious interest has shifted from this world to the next. The new gospel is one of salvation addressed to the individual soul; the Orphic preachers were in consequence the first proselytisers in the ancient world.

Another important religious development in post-Homeric times was the revival of the worship of the mighty dead. There

are already traces in the "Odyssey" of the existence of hero-cults, and the author of the eleventh book betrays a knowledge of the ritual peculiar to the worship of the powers of the Underworld. For, whereas the head of the victim sacrificed to Olympian gods was held back to look upwards at the moment of sacrifice, and its flesh was subsequently eaten by the worshippers at a banquet, in sacrifice to the nether powers, the throat of the victim, with its head depressed to look downwards, was cut over a trench dug in the ground and the offering was consumed by fire, none of its flesh being eaten.

Hero-worship spread all over Greece. Many of the heroes were no doubt legendary figures, and some may even have been "faded gods" of ancient local cults, but all were thought of by their worshippers as historical persons who had once lived and died and had afterwards received apotheosis. The majority of these cults possessed a strong local character; they present in most respects a close analogy to the phenomena of saint worship in Christianity and Islam. Divination and healing were almost invariable features of the hero's activities, and the method normally employed was that of incubation, i.e., the inquirer or patient slept at the tomb or shrine and was visited during the night by the hero.

By the fifth century the apotheosis of legendary figures had developed into the practice of canonising distinguished persons immediately after their death. Thus, for example, the Spartan general, Brasidas, was worshipped as a hero by the people of Amphipolis immediately after his death in 422 B.C. Throughout the fourth century B.C. individualism became increasingly dominant in every department of life and art; at the same time the city-state was disintegrating. The creation of Alexander's empire at the close of the century marked the passing of its day. Together with the city-state there declined inevitably that part of Greek religion which was intimately bound up with it. Further, philosophic rationalism had discredited mythology, and, by demonstrating the causes of natural phenomena, had undermined the belief in the constant interposition of heaven in terrestrial affairs. The gods of Olympus survived, it is true, but mainly as quasi-allegorical expressions of the theological tenets of philosophy.

At the same time the emotional needs of individualism maintained the popularity of the Otherworldly elements in Greek religion, and, as times became more and more difficult upon earth, men grasped with yet greater eagerness at hopes of happiness beyond the grave. The mystery religions were reinforced by foreign allies. Thus, at the close of the great period of Greek civilisation, the great mother-goddess with her divine lover, whom we have already met in Crete, returned in her Asiatic forms to exercise a dominating influence.

In conclusion, two characteristic developments of the Hellenistic age, which were to become of some importance in the religious history of Rome, deserve attention. They are both products of the incalculable insecurity and misery of the time. On the one hand, the apparent injustice of the regulation of terrestrial affairs led to the negation of a beneficent Providence, and to the consequent deification of capricious Chance, which, so far as men could judge from their bitter experience, alone decided, without regard for merit or desert, the fortunes of themselves and their contemporaries.

On the other hand, the arbitrary power, which kings possessed, of dispensing happiness or misery, led to the frequent deification of living monarchs. For this the later developments of hero-worship had prepared the way, and the more than mortal claims and achievements of Alexander the Great had rendered easy the last step. From this Græco-Oriental deification of the man-god developed later the worship of Augustus and Roma, which bound together the provinces of the Roman Empire in the common cult of the reigning emperor and the imperial majesty of the Eternal City.

RECORDS OF THE TOMBS. V
THE SOUL'S JOURNEY TO PARADISE

BY DONALD A. MACKENZIE

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Author of "Egyptian Myth and Legend," etc.

IN the inner chamber of the Tutankhamen tomb the figure of an Egyptian jackal has for thirty long centuries been keeping watch over the mummy. Here we touch on one of the world's most ancient beliefs regarding the destiny of the soul. It was believed that in death, as in life, man was in constant need of his faithful companion, the dog, his immemorial sentinel and scout, who would defend him against human and bestial enemies and act as his guide and tracker when he wandered afar in search of food and shelter. The belief enshrined in the lines of Pope:

He . . . thinks, admitted to that equal sky,
His faithful dog shall bear him company—

was shared by "the poor Indian" and the highly-cultured Egyptian aristocrats and Pharaohs.

The prowling jackal was regarded by the early peoples as the hunting scout of the lion. It is closely allied to the dog, and the dog was the first animal domesticated and deified by man. Herodotus tells us that when a pet dog died the Egyptians went into mourning and shaved their heads and the whole of their bodies, and that there were sacred burial places for dogs. It was, no doubt, because the wild jackal was seen by night prowling in the cemeteries that the Egyptians regarded it as "the dog of the dead," and deified it as Anubis. Many ancient and modern peoples have clung to the belief that a dog howling

in the darkness proclaims the sudden and stealthy approach of the god or goddess of death. Thus, the Greek poet Theocritus makes Simætha exclaim: "Hark! the dogs are barking through the town. Hecate (portress of Hades) is at the crossways. Make haste and clash the brazen cymbals." Many folk-stories and old myths tell of the terrible watch-dogs of Hades, of dog-scouts accompanying souls, and of attacks made by dogs on supernatural beings who threaten the lives of their owners.

Anubis, the Egyptian wild-dog, was a veritable scout of souls. As Ap-uat he was "Opener of the Ways," guiding the dead along the dark and desolate paths that led to the mysterious Underworld of Paradise.

By Tutankhamen's time, however, Anubis had become a highly complex deity and had assumed a double character. In the tomb he was a sentinel crouched or standing beside the mummy. "I have come to protect Osiris (the dead Pharaoh)," declares Anubis, in the "Book of the Dead"; he was also supposed to assist in the process of mummification. In his other form he conducted the soul to the Celestial Paradise. Plutarch, commenting on these conceptions, and on the resemblance which the Egyptians "imagined between Anubis and the dog," said it was because it had been observed that the jackal "is equally watchful by day as by night" that Anubis was regarded like the Greek Hecate as "a deity common both to the celestial and infernal regions." Apuleius tells, in the romance of "The Golden Ass," that when the worship of Osiris and Isis had been established in Rome, the dog-god was represented in the Procession of Isis, rearing his head and neck, and he refers to the dog-god as "that messenger between heaven and hell, displaying alternately a face black as night and golden as day."

But the dual character of Anubis was due mainly to the fusion of two ancient Egyptian cults, that of Osiris, which originally believed in a Paradise in the West, and that of the sun-worshippers who believed in a Celestial Paradise in the East—"to the east of the sky," as the old Pyramid texts emphasise. The early conflict between the two cults is echoed in the mortuary texts dating back till about 2700 B. C. "Go not on those currents of the west," a Pharaoh is warned. "Those who go thither they return not again." In another passage, trans-



From the Papyrus of Hunefer, by permission of the Trustees of the British Museum.

MAGIC WHEREBY THE PRIESTS OF ANCIENT EGYPT AWOKO THE MUMMIFIED DEAD

After the preparation of the mummy, there were other acts to be performed for the dead man. One was known as the ceremony of the Opening of the Mouth, and belonged to a series designed to re-animate the mummy and make it a fit habitation for the "ka," or double, which lived in the tomb. This double was born with a man, but at his death took on a separate existence and was free to reach the world at will, returning to the tomb, however, to feed on the funerary offerings; the part of a man which voyaged to Paradise was his "Ba," or soul, symbolised as a human-headed hawk. This vignette from the "Book of the Dead" of Hunefer shows the mummy before which the wife and daughter of Hunefer are weeping, while the high priest and his assistants perform the mystic rites; the god Anubis is also introduced, embracing the mummy, to indicate that his protection is assured for the dead man.



Photo by Gaddis & Seif, Luxor.

THOTH WELCOMES THE ROYAL NEWCOMER

Though counted as one of the gods, and even commanding their obedience, a royal soul must be prepared to shoulder some of the divine responsibilities, as Pharaoh on his daily voyage with Ra in the solar bark. Here Thoth welcomes Queen Nefertari to her predestined home and duties among the gods of her race.



Photo by Gaddis & Seif, Luxor.

PHARAOH'S SON SHARES HIS FATHER'S GLORY

In the Valley of the Queens at Thebes were buried not only queens, but royal relations as well. This wall-painting shows us Amenherkhepeshef, son of Ramses III., being led by his august father to the company of the gods, as though his welcome was assured with one already half a god as sponsor. The king and his son are shown twice, before Ptah-Tanen on the left and Tuamutef on the right. Note the single lock of hair worn on the right side of the head by minors in Egypt.



By permission of the Trustees of the British Museum.

THE SOUL COMES FORTH FROM THE TOMB

The ceremonies over and the mourners departed, the soul is now free to go forth on its perilous journey to Paradise. This illustration from the Papyrus of the scribe Ani shows the dead man standing at the door of the tomb, accompanied by his shadow, or "khaibit." The human-headed hawk, as usual, symbolises the soul.



After a drawing in Naville's "Das Aegyptische Todtenbuch."

THE JOURNEY BEGUN

The soul ascends the western mountain which divided Egypt from the fabled land of Amenti.



From the Papyrus of Ani, by permission of the Trustees of the British Museum.

JOYS THAT AWAITED THE JUSTIFIED BEYOND THE WEST

If the dead man hunted in life, he hunted in Paradise; if he had feasted there, he feasted here, and all the pursuits of his mortal existence were reproduced. Ani and his wife had obviously once enjoyed their quiet game of draughts, for here they are shown recalling earthly pleasures in the cool shelter of a pavilion. Their souls, in the usual bird-form, are perching on the roof of their tomb close by, and now that the dead have acquired a "Sahu," or spirit-body, these souls may be regarded as separate entities.



Photo by Gaddis & Seif, Luxor.

THE DESTINY OF KINGS AND WIVES OF KINGS

The lot of Pharaoh and his queen in the Otherworld was more glorious than that of other mortals, although, one would think, less satisfying. Isis herself, in this tomb-painting from the Valley of the Queens, brings the ankh, or sign of everlasting life to Queen Nefertari, wife of Rameses II., thereby acclaiming her an equal of the gods.



After a drawing in Rosellini's "Monumenti Civili."

THE SOUL'S FIRST FLIGHT

The preparation of the mummy with its magic armour of charms and amulets was an important process, and placed under the protection of the god Anubis, who is here shown in the act of laying the corpse on the funerary couch. The human-headed bird is the soul of the deceased, holding the breath-giving sail and sceptre of power.



From the Papyrus of Ani, by permission of the Trustees of the British Museum.

DELIGHTS OF THE OSIRIAN PARADISE

After the terrors of the desert journey the cool streams of Paradise were a welcome solace. Here Ani and his wife Tutu are shown drinking draughts of refreshing water from the Celestial Nile, on whose banks are growing fruitful palm trees.



From "Gizeh and Rifeh," by W. M. Flinders Petrie.

HOUSES FOR THE SOULS OF THE DEAD

It is hard to reconcile all the funerary practices of the Egyptians—these pottery models of houses, for instance, set on top of the tomb for the use of the soul. Note the chair, which places this example in the tenth or eleventh dynasty.



After a photograph in the Minutoli Catalogue.

THE BOAT OF RA PASSES INTO THE WEST

According to the Eastern cult the soul entered the boat of the sun-god Ra, passing at night into the Mountain of the West and partaking of fresh life with him each morning in the east.



After a facsimile by Déveria.

PERILS OF THE WESTERN DESERT

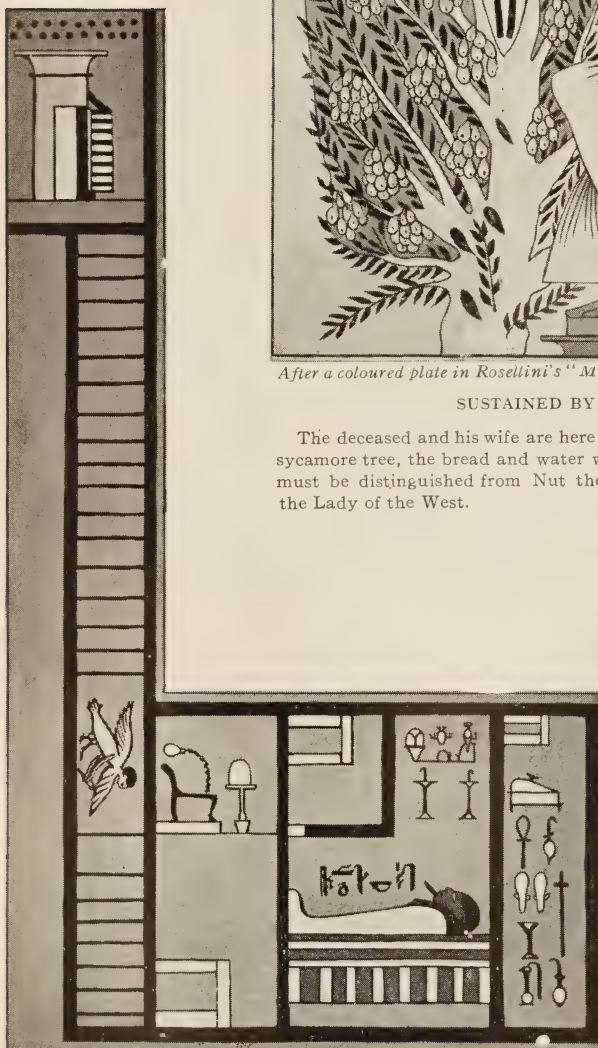
The souls that sought Amenti in the West did well to avoid these ominous apes, who fished with nets for the souls of men. The well-instructed soul preserved its human form.



After a coloured plate in Rosellini's "Monumenti Civili."

SUSTAINED BY THE EGYPTIAN TREE OF LIFE

The deceased and his wife are here shown receiving from the Goddess Nut, in her sacred sycamore tree, the bread and water wherewith weary travellers might be refreshed. She must be distinguished from Nut the sky-goddess, and is often identified with Hathor, the Lady of the West.



After a drawing by Dèveria.

SADLY MINDFUL OF ITS BODY STILL

In its beautified state the soul was free to revisit the body it had quitted, should it so desire, and was even credited with being able to re-animate it; it is shown above fluttering down the shaft of the tomb in its guise of a human-headed hawk.



After a coloured facsimile in Leemans' "Monuments Egyptiens."

MAGIC TAUGHT BY THE "BOOK OF THE DEAD"

By intercession and the right formulæ souls could obtain the aid of the Goddess Hathor on the last stage of their journey. Appearing as a cow, she carried the tired soul on her back at a swift gallop through the haunted desert lands.

lated by Breasted, the dead, however, is advised to go to the "West" in preference to the "East," while a third effects a compromise by stating that "King Unis rests from life (dies) in the West. . . . King Unis dawns anew in the East."

Osiris, an ancient deified king, was identified with the god of the Western cult called "First of the Westerners," and it would appear that the story of his dismemberment was a dim memory of an ancient burial custom which had for its aim the release of the soul, so that it might go Westward, led by the wild dog-scout of the night. To the later Egyptians the dismemberment custom was abhorrent, and in the "Book of the Dead" the mummy is made to exclaim: "My head shall not be taken from my neck, my tongue will not be torn out . . . my body is firm and shall not be destroyed." The gruesome custom referred to is found to have been practised by the early North African invaders of Europe who, in the Azilian period, buried the heads of their dead in the cave of Ofnet in Bavaria, and turned their faces towards the west, being apparently believers in the existence of a Western Paradise, the way to which had been "opened" by the first man, remembered in Egypt as Osiris, with the aid of his faithful dog.

The early Egyptian texts do not give details of the adventures experienced by the souls who set out on the perilous journey to the Paradise in the West, but apparently they had to cross bleak deserts, climb high mountains, ford streams, and engage in combat with fearsome monsters—gigantic complex animals and reptiles, fire-spitting serpents, dark shapes with clutching claws, and so on. These the dead man was enabled to overcome, or escape from, because his dog-scout came to his aid and constantly led him along the safe path to the land of bliss. A lake—"Lily Lake"—had to be crossed, and its ferryman was the cross and callous "Face Backwards," who had to be propitiated.

The texts of the solar cult provide more intimate details of the soul's last journey. They provide also a variety of conceptions regarding life after death. One beautiful old belief was that when the Pharaoh died, he became once more a helpless babe and had to be suckled by the mother-goddess. Professor Breasted has translated some characteristic Pyramid texts in

this connexion. "This King Pepi knows his mother," one text declares, and the goddess is appealed to in these words so that she may suckle him:

O mother of this King Pepi . . . give thy breast to this King Pepi, suckle this King Pepi therewith.

A text then puts into the mouth of the goddess the comforting assurance:

O my son Pepi, my King, my breast is extended to thee, that thou mayest suck it, my King, and live, my King, as long as thou art little.

But the idea of rebirth in infant form had already become archaic in the ancient Pyramid Age of the early dynasties. No doubt the custom of mummification which was then being gradually adopted, had something to do with the abandonment of the idea of the infant soul. The Pharaoh's body was being preserved so that he himself might have real existence as an adult in the Otherworld of the Celestial regions, and in various texts we can trace a variety of beliefs regarding the manner in which he was supposed to reach the sky. Some early and late texts tell of a ladder similar to that which Jacob saw in his dream—"a ladder set up on the earth, and the top of it reached to Heaven: and behold the angels of God ascending and descending on it" (Genesis xxviii. 12).

A Pyramid text tells of the gods "fixing together the ladder for King Pepi," and another calls on King Unis to climb the ladder so as to reach the sky. The ladder ultimately became a stairway, and was taken over by the Osiris cult after the Paradise of that god had been raised to the regions beyond the sky. Sometimes the ladder is referred to as one of wood, and sometimes as one of rope. Other beliefs were that the Pharaoh was raised to heaven by the wind, or that he climbed a column of smoke and then used a cloud as his vehicle. "He has been taken away by the clouds of the sky," one text proclaims, while another says of the Pharaoh: "He goes up on the smoke from the mighty burning of the incense." In many ancient Egyptian



From the Papyrus of Ani.

THE LAST AND MOST TERRIBLE ORDEAL OF THE SOUL OF THE SCRIBE ANI

After safely passing the terrors of the western desert, by the correct use of the magic formulae contained in his copy of the "Book of the Dead," Ani the scribe, who died in the eighteenth dynasty, arrives in the dread Judgment Hall of Osiris. He has already made his confession of righteousness before the forty-two Assessors, and now stands with his wife, both humbly bowed, waiting for the final verdict. Before them is the Balance on which the jackal-headed Anubis is weighing the heart of Ani against the feather of Truth, while Thoth of the Ibis-head records with his reed what Anubis reports. Finally, the god Thoth crouches the gruesome Amemit, Eater of Souls, crocodile, lion and hippopotamus combined, who will devour the heart of Ani if the Balance hangs uneven. On the standard of the Balance can be seen the Panocephalus of Thoth, while the soul of the dead man under the form of a human-headed hawk, together with his Luck and the goddesses Meskhenet and Renenet, anxiously watch the proceedings. Above is the great company of the gods of Heliopolis who act as the jury at the trial.

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pictures the soul, "Ba," is depicted as a human-headed bird (see illustration facing page 286). The idea of the soul reaching the sky in bird form is found to be as old as the Pyramid Age, when the gods, as stars, were supposed to flutter by night into the darkened sky. "Thou takest flight to the sky as a falcon," a text suggests to the Pharaoh; "thou hast perched on a cloud like a bird on the top of a mast," is another example of imagery characteristic of the Egyptian texts.

Apparently, however, the soul-transformation belief did not entirely satisfy the theorising priests, who still clung to the memory of the nursing deities. In some very old mortuary texts the Pharaoh is represented as being lifted from the earth by the mother-goddess, whose body was supposed to curve over the world, forming the sky, her legs and arms being the supports of the four quarters. In ancient pictures the arms of the mother-goddess are shown stretching towards the earth from the curving sky, and a Pyramid text, inscribed for the benefit of one of the old Pharaohs, renders articulate this piece of symbolism in the words, "Nut (goddess of heaven) has reached forth her arms to thee, she with the streaming hair (sun rays) and hanging breasts." In other texts that have been preserved the gods and the priests (literally "servants") are called upon to raise up the body of the re-animated monarch.

After reaching the sky, which was supposed to be of iron, the Pharaoh had to have its door or gates opened for him. Magical texts were provided to secure that this would be accomplished. The insistence in the Pyramid texts that the dead should go eastward suggests, however, the existence of the belief that admission to the Celestial regions was possible only at dawn. The foundry (mesnet), in which the new sun was forged, was situated in the eastern horizon. "When the doors of the foundry are opened," a text declares, "the disk (in other words, the sun) riseth up."

On entering the foundry doors the dead man was accompanied by Horus, in his form of a "green falcon," called "Morning Star," another indication of the belief that the Celestial regions "to the east of the sky" could be reached at dawn only. The wonderland of the realm of Ra, the sun-god, was then revealed to the wandering soul. Guided by the Horus falcon,

the Pharaoh was led to a lake in the midst of the "Field of Life." On this lake there was an island, where grew a Tree of Life (the Celestial sycamore-fig) beside a Well of Life.

There are many pictures of this wondrous Tree, symbolic of Nut, sometimes here identified with the mother-goddess, Hathor. That deity was sometimes shown rising from the tree, holding a jug in one hand and cakes and fruit in the other. Sometimes she was represented pouring out the liquid called "Water of Life" from her jug held in one hand; the liquid falls on the outstretched hands of the Pharaoh; from her other hand a liquid streams down to the mouth of the soul, a man-headed bird, the "Ba." She might also be shown seated beside the tree, adored by the Pharaoh, while his name was being carved or written on the trunk by the god Thoth.

References are made in the Pyramid texts to the Celestial "morning meal" of the Pharaoh. Not only did he partake of the fruit of the Tree of Life and the juice of the tree and of the "Water of Life," but of his "thousand of bread," his "thousand of oxen," his "thousand of beer," and his "thousand of everything whereon the god lives."

Another view was that the Pharaoh entered the boat of the sun-god Ra. Before doing so, he had to overcome his enemies and rivals. In the sun-boat sat the scribe of Ra. The Pharaoh broke this scribe's tablet and pen and ejected him from the boat, and then became the companion and scribe of the god. In the process of time the theorising priests made the Pharaoh displace Ra himself.

Each day the Pharaoh sailed on the Celestial Nile which flowed from east to west. Its water was "the water of turquoises," the turquoise being a stone sacred to the goddess of the sky who had had her origin in water. At sunset, the boat entered the dark Underworld (Duat or Dewat), passing along the subterranean Nile, which had twelve hour-divisions. The first hour was entered through a wall of "solid darkness," but this division and the divisions that followed were brightened by the presence of the sun-god. In their "books" the priests revelled in long and tedious descriptions of the various "hours."

The souls of the different classes of men dwelt in these, watched over by gods. They welcomed and adored the sun-god



From the Papyrus of Ani.

ANI, VINDICATED IN THE DAY OF HIS JUDGMENT, COMES BEFORE OSIRIS

The crisis is over—the Balance hangs level, the heart is not outweighed by the Truth. Anubis reports it and Thoth testifies that Ani has lived pure and righteous on earth. Horus, the hawk-headed son of Osiris, then takes Ani by the hand and leads him up the hall to where his father sits, enthroned in a tomb-like shrine surmounted by sacred ura and attended by the two Maati goddesses who stand, Isis on his left and Nephthys on his right; in his hands are the crook, the flail, and the sceptre, emblems of sovereignty, and before him on a lotus are the four sons of Horus who guarded the intestines of the dead. After a formal introduction by Horus the justified soul sinks on his knees before the presence and makes oblation of the offerings which he has brought with him from the land of the living, proclaiming meanwhile his innocence and making his final supplication. But there is nothing more to fear, for the dread ordeal is past: welcomed by Osiris, the soul becomes a "spirit-body" (Sahu) and passes on to be presented to the special *poets* of the Paradise whose joys he is about to taste everlastingly.

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who brought them light. When Ra passed into the next division, the souls wept for Osiris in the darkness and "tore their hair in sorrow." In one division there were "pools of fire," and there the wicked were tortured because while they lived on earth they had been the enemies of Ra, guilty of blasphemies and of frustrating his decrees. Some were decapitated, others were drowned in the abyss, others were tortured in pools of boiling water or of fire, or were constantly wounded by malevolent demons armed with knives.

As Ra passed through the Underworld he had to overcome many enemies, including the monstrous Apép serpent, the devourer of souls, gigantic lizards, composite wonder-beasts, fire-spitting snakes, and so on. The Egyptians dreaded poisonous serpents, and there are many serpent charms in the Pyramid texts, the "Book of the Dead," etc. On emerging from the Underworld, the sun-god and his scribe, the Pharaoh, sailed to the "Field of Life," and were purified, fed, and refreshed before passing again through the gates of dawn to brighten and rule the world. This conception is as old as the Pyramid Age, but fresh details were added from time to time in later ages.

The Solar Paradise was in early times reserved for the Pharaoh alone. It was to ensure longevity for him that the hymns and magical texts were inscribed in Pyramid tombs. On earth he reigned as a god, and after death he became the companion of, or substitute for, the deity of the sun who controlled the seasons and gave high Niles and abundant crops. But after the Cult of the East was fused with the Cult of the West all those who were mummified were supposed to reach the "Field of Life," the Celestial Paradise to the east of the sky.

Osiris, the pre-dynastic king, who was also credited with having framed good laws, was the first to discover the path which led to the Paradise which lay parallel to Egypt in the West. In the valley of his Paradise, surrounded by hills and watered by the Celestial Nile, he also introduced agriculture and the culture of fruit trees, and there he became the Judge of the Dead. The souls had to work in this Otherworld as on earth, but their efforts were abundantly rewarded, for great crops were grown and trees yielded constantly richer fruit than grew in Egypt. Happiness and contentment prevailed.

But this Paradise was denied to sinners and law-breakers, for the idea had emerged in Egypt, some sixty centuries ago, that salvation was obtained through "works." Before being admitted to that rich and beautiful Wonderland, that more glorious Egypt, the dead had to be tried and tested in an initiation ceremony which, as time went on, grew more elaborate. The dead man was first admitted with ceremony to the Judgment Hall in which Osiris was enthroned and equipped with his symbols of office. Beside him stood the goddesses Isis and Nephthys, while round the hall were seated the grim deities of the various nomes (provinces) of Egypt. In the middle of the hall stood the great Balance, delicately adjusted, on which the heart (mind and conscience) of the dead was weighed against the feather-symbol of Truth by the falcon-headed god Horus and the jackal-headed god Anubis, while the ibis-headed god Thoth acted as recorder. Beside the Balance crouched the Destroyer, a female demon with the head of a crocodile, the body of a hippopotamus, and the hind legs of a lioness, who devoured the unworthy.

The dead man was solemnly conducted by Horus into the Judgment Hall, and in the deep silence he hailed and adored the mute and stern Osiris as the "Lord of Truth." Then he recited a formula, which has been called a "Negative Confession"—a proclamation of his innocence of forty-two sins, including lying, deceit, theft, immorality, murder, oppression, cowardice, the diversion of canal-water from a neighbour's land, the extinguishing of the sacred fire, and the interference with the sacred fishes, birds, and herds of the gods.

When the confession was heard Osiris and the other gods still remained mute. Then, in the tense dramatic stillness, the heart was weighed in the Balance. If the dead was found to be justified, he was conducted to Paradise; if found to be a sinner and law-breaker, he was devoured, or was transformed into a black pig, an animal abhorrent to the Egyptians, and driven to the place of punishment and annihilation.

The dread of this terrible ordeal in the Judgment Hall of Osiris haunted the minds of the ancient Egyptians. "He who is yonder," sang a pessimistic poet, "shall seize and punish the doer of evil. . . . He shall be a wise man indeed who is not cast out." The confession might be learned by rote, but who, the

sinner asked in fear, could stand the all-revealing test of the Balance?

The priests, however, found a way out of this difficulty by providing a scarab, inscribed with a magical charm, which would prevent the heart crying out, as a conscience, truthful but terrible accusations against the man on trial. It was here the influence of the solar cult came in, for in its doctrines the dead secured salvation by knowledge of magical charms, and not through works, as insisted upon in the doctrines of the ancient cult of Osiris, the law-giver, judge, and king. Among the ancient Egyptians there were those who, even as far back as Old Kingdom times, many centuries earlier than Tutankhamen's age, regarded with doubt the priestly promises of bliss in the Otherworld. A wonderful song in the tomb-chapel of the King Intef (c. 2500 B. C.) laments the decay and disappearance of ancient bodies and tombs. It throws doubt on the idea of future happiness and reminds us that

No soul returns to tell us how he fares,
To cheer and comfort us.

The living are advised to enjoy life to the full until that day comes when the mummy

Hears not the cries of mourning at the tomb,
Which have no meaning to the silent dead.

But, perhaps, the most melancholy inscription of all is that found on a funerary stele of an Egyptian lady of the Greek period who advises her husband "to eat and to drink from the cup of joy and love," and not to permit his heart to "suffer sorrow and be pierced" with the thought of death, "for," the inscription continues, "the West is a land of slumber and darkness, a dismal abode for those who dwell in it. They lie asleep, they do not stir; never do they awake again to look on relatives. . . . I know no longer where I am. . . . Alas! if only I had running water to drink. . . . Mayhap it would refresh me and bring my suffering to an end."

THE SEVEN WONDERS. II
THE HANGING GARDENS OF BABYLON
BY J. A. BRENDON, F.R.HIST.S.

THE HANGING GARDENS OF BABYLON

BY J. A. BRENDON, F.R.HIST.S.

Author of "The Story of the Ancient World," etc.

A JEWEL depends for its beauty largely upon its cutting and the manner of its setting. The case of a monument or of a building is similar; however beautiful the structure may be in itself, its glory is enhanced by its associations and environment. In order, therefore, fully to appreciate the splendour of the Hanging Gardens of Babylon, accounted among the Seven Wonders of the World, we must try to visualise them in their proper surroundings, actual and historical.

Babylonia was the first of the great kingdoms of Western Asia; with the exception, perhaps, of Egypt, it was the first of the great kingdoms of the earth. The writer of the book of Genesis called the country "the land of Shinar." There Nimrod, "the mighty hunter," we are told, "began to be a mighty one in the earth. And the beginning of his kingdom was Babel (Babylonia), and Erech, and Accad, and Calneh, in the land of Shinar."

Also in Genesis we learn that "out of that land he went forth into Assyria, and builded Nineveh." For several centuries Assyria, the land of Ashur, with Nineveh as its chief city, remained, if not actually a province, at least a dependency, of Babylonia. But in the ninth century B. C. the Assyrians achieved independence, and at last, about 745 B.C., under the mighty Tiglath-Pileser III., vanquished their former overlords, and absorbed Babylonia in their empire. The proud city of Babylon then fell from its high estate; Nineveh became "the glory of kingdoms."

The triumph of Nineveh endured for rather more than a

century. Medes had long been gathering in the mountains to the east. The ever rebellious Babylonians entered into a league with these Medes, and in 606 B. C. they fell upon Nineveh, and destroyed the city so utterly that until archaeologists began to excavate in modern times all knowledge even of its site was lost.

With the fall of Nineveh began the second Babylonian empire, the empire of Nebuchadnezzar. And then were built the famous Hanging Gardens. Nebuchadnezzar, in the spectacular manner characteristic of the East, designed them to honour and delight his beautiful Median queen, daughter of Cyaxeres, that prince whose arms and whose loyal support had raised his house to power.

An old Greek story has assigned to the gardens an earlier date. According to this story, they were built by Semiramis, the beautiful, voluptuous, but wholly mythical Assyrian queen, whom tradition has proclaimed as the founder of both Nineveh and Babylon and all their wonders.

Nineveh, in the days of its splendour, had been a vast and wonderful city. Nebuchadnezzar purposed to raise a new Babylon, which should be greater and more wonderful still. He achieved his purpose. The city of Nebuchadnezzar, built for the most part by master craftsmen brought as slaves from Nineveh, amazed all who beheld it.

According to the Greek historian, Herodotus, "the father of history," who lived in the fifth century B. C., the city was laid out in the form of a square, with the broad Euphrates flowing through its midst. Each side of the square was fifteen miles long, and the whole was surrounded by a wall, 350 feet high and 87 feet thick, in which there are said to have been "a hundred gates all of brass, with brazen lintels and side posts."

And the marvels within those gates! Babylon was not a city as we think of cities to-day, not a place where men lived herded in narrow streets and gloomy squares. Its gorgeous temples, palaces, and halls stood in stately parks. There were great hunting grounds in its midst. It was a place of extravagance beyond ordinary computation and of wicked luxury, the pride and the undoing of an arrogant and conquering race.

The city itself is described in another section of this work as



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A TURNERESQUE CONCEPTION OF WHAT THE GREAT CITY OF BABYLON WAS LIKE IN THE DAY OF ITS GLORY

One reconstruction of the Hanging Gardens of Babylon has been given in this work; above is another striking piece of creative imagination by the brilliant architect, Mr. William Walcot, not indeed of the Hanging Gardens in particular, but rather intended to give an epitome of the life of that gorgeous city. The idea is that of a great central building used for all civic purposes, and covered with wicker dwellings which the notables of the town were permitted to erect there; and the whole effect may suggest the general appearance of the famous gardens. But it must be emphasised again that the work is frankly imaginative, designed to create a mental picture of Babylon as it once appeared rather than to give an archaeological accurate reconstruction.

one of the "Wonder Cities" of the past. If we can place any trust in the accounts of the old writers, it must have been the most wonderful of them all, and recent excavations have gone far to confirm the seemingly fabulous stories handed down to us.

But in all Babylon there was no building to rival the Hanging Gardens. On this, all who saw and have described the city are unanimous. The framework of the gardens was made largely of stone. That is not their least remarkable feature. The Hanging Gardens were the only Babylonian structure in which hewn stone was used to any considerable extent; and if it is hard for us to appreciate the limitations under which architects worked in the basin of the Tigris and Euphrates where—in the words of Professor Myers—"a stone door-socket was a rich gift of a king to his god, and was rescued from one ruin after another, to be re-used and proudly re-dedicated," it is still harder for us to imagine whence, and at what cost, all the stone that must have been required for the gardens was obtained.

In point of grandeur and immensity, the Hanging Gardens cannot be compared with Nebuchadrezzar's colossal palace, or with the Temple of the God Bel Marduk, Babylon's protecting deity—a towering eight-storeyed structure, crowned with two vast gold-laden shrines. But for beauty, grace, and charm they were unmatched. They occupied a square, with a circuit of rather more than a quarter of a mile, immediately to the north-east of the principal court of the royal palace.

The use of the term "hanging" in connexion with these gardens is, though generally accepted, in many ways unfortunate. The word gives a false impression, and it is not a fair translation either of the Greek "kremastos" or of the Latin "pensilis." To the Romans "pensilia" conveyed the idea of balconies.

Balconies—balconies raised one above another; that is exactly what the Hanging Gardens were. They comprised, in fact, a series of wide, stone terraces, supported by arches, and rose, like a giant stairway, to a height of 350 feet, the whole structure being strengthened by a surrounding wall 20 feet thick. On each of the terraces was a layer of mould so deep as to make it possible not only for plants and flowering shrubs to be grown, but fruit-bearing trees as well.

The gardens were irrigated by means of hydraulic pumps which raised water to a reservoir on the highest terrace. On top of the numerous arches the builders laid reeds and bitumen, and, above these, thick sheets of lead. This served to prevent moisture from the soil leaking through and so damaging the spacious and superbly decorated apartments constructed in the vaulted spaces between the arches below.

A wide flight of steps ascended from each terrace to the one above. Picture these lofty terraces, their many arches festooned with flowering creepers, and all the platforms ablaze with the most gorgeously scented and coloured flowers which Asia—indeed, the then known world—could produce, shaded from the too hot sun by trees laden in their seasons with rich and luscious fruits: picture, in this paradise of sybaritic and Oriental luxury, in the heart of great Babylon, the Median queen holding her splendid Court, then you will be able to appreciate something of the glamour and glory of the Hanging Gardens.

Now, in imagination, mount the wide staircase up from the relentless glare and cruel heat of the long Mesopotamian summer into the shade of one of those arched chambers, furnished with exquisite treasures of Eastern art: sink on a soft divan, and feel the dry, hot air blowing deliciously cool upon you through the continuously watered vegetation without, while minstrels make soft music, while slaves anticipate your slightest wants, while the life of the great city throbs below—then, surely, you will call the Hanging Gardens a wonder, a conception worthy of the king who was feared and respected as the greatest monarch upon earth.

What remains of the Hanging Gardens?

More than is commonly supposed. Excavations carried out in 1903 brought to light, in a square immediately to the north-east of the ruins of Nebuchadrezzar's great palace, a vaulted crypt or cellar, the foundation of a building wholly unlike any other traced on the site of ancient Babylon.

And evidence survives that stone was used extensively in its construction. Inscriptions on tablets found on the stairway leading to the crypt suggest that these cellars once served as refrigerators, as places for preserving perishable foods.

On either side of a central passage are the remains of seven

vaulted chambers, closely resembling in design the arched apartments of the Hanging Gardens of legend. This quadrangle is surrounded by a thick wall and, outside this, on the north and east, separated from it by a narrow corridor, is another series of chambers.

There is little doubt that this masonry once served to support the fairy palace built, as a symbol of love, by the king who led the Hebrews into captivity, and who is the best known to us of all the historic characters of the long, long ago. The position of the ruins, their construction, and size all point to this one conclusion. And the surmise is supported by evidence which appears to be still more convincing.

In one of the outer chambers there is, to quote from that authoritative work, "The Excavations at Babylon," by Robert Koldewey, "a well which differs from all other wells known in Babylon or elsewhere in the ancient world. It has three shafts placed close to each other, a square one in the centre, and oblong ones on each side, an arrangement for which I can see no other explanation than that a mechanical hydraulic machine stood here, which worked on the same principle as our chain pump. . . . This contrivance . . . would provide a continuous flow of water." How strange that this utilitarian detail should be the only surviving proof that the Hanging Gardens once existed in all the glory with which legend has invested them!

TEMPLES OF THE GODS. IX
THE GREAT SHRINES OF SICILY

By F. N. PRYCE, M.A.

THE GREAT SHRINES OF SICILY

BY F. N. PRYCE, M.A.

Assistant, Department of Greek and Roman Antiquities, British Museum

IT was in Sicily, an island ruled for twenty-five centuries by a succession of masters, including almost every race but its own inhabitants, that, in point of material prosperity, Greek civilisation probably attained its zenith. The island completely outstripped Greece proper, and its reactive influence on the motherland is clearly traceable. The culmination of Greek art, as we know it in the Parthenon of Athens, would have been impossible and inexplicable without the long evolution and development which is to be traced in the forty odd Doric shrines of Sicily of which the remains are still preserved to us.

It is probable that Sicily had attained a measure of civilisation long prior to the arrival of the Greeks. Apart from vague traditions of lotus-eaters and Cyclopes, the earliest inhabitants of whom anything definite is recorded were the Sicani, who, perhaps about 1500 B. C., were driven into the western half by the Siceli, a race of invaders who seem to have come from Italy, and whose tombs have yielded bronze implements and pottery proving them to have been considerably advanced beyond the stage of barbarism.

The Greeks who came to Naxos, the earliest Greek colony in Sicily, in 735 B. C. were of the Ionian branch of their race, to which the Athenians belonged; several other Ionian colonies followed in the north-east corner of the island, among them being cities on the sites of the modern Messina and Catania. But the most numerous colonists were the Dorians, who settled along the southern and eastern coasts. The Phœnicians, timid traders

and far from their base, shrank from competition with the newcomers and, abandoning most of their own stations, confined themselves to a few posts at the far west of the island.

It was through these Phœnician colonies, however, that danger first arose for the Greek communities. Fearing to be excluded altogether from the trade of the island, they sought the protection of their countrymen of Carthage. In the year 480 B. C. a powerful Carthaginian army under Hamilcar advanced along the north coast and besieged Himera, a few miles west of the modern Cefalù. Here it was surprised by the Greeks and utterly routed. It is to the period following the battle of Himera that we owe most of the existing remains, including the later and larger temples. If they lack the perfection of detail and the beauty of material which is sometimes, though not always, to be found in the shrines of Greece proper, they show in a pre-eminent degree a variety of planning and a happiness of position, while in scale and bulk they have never been surpassed. The Parthenon at Athens is 228 feet in length along the platform; but at least two of the Sicilian temples attained a length of over 370 feet.

Throughout the greater part of the fifth century B. C. the island seems to have enjoyed peace. But internal revolutions and change of government were common within the cities, so when in 409 B. C. a second Carthaginian army landed in the west, the Greek cities failed to combine as they had in face of the former invasion and were conquered piecemeal. One after the other the rich and populous communities were sacked and destroyed, and from this point until the Roman conquest the history of Sicily is the history of Syracuse, which was almost the only city able to resist the invaders and preserve its prosperity.

The material remains of this flourishing age are of varied nature, comprising fortifications, aqueducts, tombs, houses, some superb theatres, and, above all, temples of the "Doric" order, the development of which may be traced in Sicily from the rude and clumsy proportion of primitive architecture to the perfection of a finished art. Apart from Syracuse, the most important sites to-day are Girgenti, Selinunte, and Segesta. Girgenti is a flourishing town of 20,000 inhabitants about the



Specially coloured for "Wonders of the Past."

DORIC COLUMNS OF THE TEMPLE OF CASTOR AND POLLUX, GIRGENTI

Among the wonders of the once wealthy city of Girgenti (the Akragas of the ancient Greeks and the Agrigentum of the Romans), this fine reconstruction, by M. Cavallari, from the remains of two distinct temples, is known as part of the Temple of Castor and Pollux. The four beautiful Doric columns, the architrave, and the triglyphs are the work of the fourth century B.C.

centre of the southern coast-line, but the modern town occupies only a corner of the area covered by the ancient city, which in its prime counted over 200,000 inhabitants. Known to the Greeks as Akragas, to the Romans as Agrigentum, it was one of the latest establishments of the Greeks, founded as late as 582 B. C. as an offshoot of another colony farther east. It rapidly grew under a succession of able rulers, one of whom, Phalaris, earned an unenviable reputation in later tradition as a cruel tyrant; he is said to have roasted his victims alive within a hollow bull of brass. Another ruler, Theron, was one of the heroes of the great victory of Himera.

During the early part of the fifth century B. C. Akragas disputed the primacy of the island with Syracuse, and war broke out between the two cities, but Akragas suffered a heavy defeat (446 B. C.). Thirty years later, when Syracuse was fighting for existence against the Athenians, Akragas remained sullenly neutral, but in 406 B. C. the Syracusans were sufficiently magnanimous to send help to their rivals against the Carthaginians. Despite this assistance, however, after an eight months' siege, Akragas was taken and plundered. In the following century it was recolonised and, in contrast to the fate of most of the destroyed cities, a second time rapidly rose to prosperity. On more than one occasion it again endeavoured to challenge the leadership of Syracuse, and it was the last city of Sicily to pass under the domination of Rome, holding out long after the rest of the island had submitted, and then only won by treachery.

The site of Girgenti is of extraordinary beauty. Two long ridges, bounded on each side by small rivers, rise from the fertile coastal plain. On the northern ridge is the modern town; between the two lies the ancient city, of which few remains are now to be seen; but the southern ridge is crowned by a line of half a dozen great temples, of which one is in almost perfect preservation. This array of colonnaded buildings of bright golden stone must have been extraordinarily impressive; the Greek poet, Pindar, calls Akragas "the most beautiful city of mortals."

The ancient names of the temples have been largely lost, and their modern designations are simply adopted for the sake of distinction. At the eastern end of the ridge is the Temple

of Juno, gloriously situated on a high rock. It dates from the fifth century B. C., the period of finest art, and is still extensively preserved; traces can still be observed of the fire which consumed it on the night that the Carthaginians took Akragas. A little farther west comes the Temple of Concord, of the same date, and, with the exception of the Theseion at Athens, the most perfectly preserved Greek temple in existence. The only part lacking is the roof, which has fallen in; the staircases leading to the roof, the colonnade, and pediments are undamaged. It owes its preservation to the fact that during the Middle Ages it was converted into a church. Both these temples are a little under 140 feet in length.

Still farther west comes the Temple of Zeus, the largest temple in all Sicily, over 370 feet long. The architecture of this is peculiar, as the columns, instead of standing free, were engaged into the walls. There are thirty-eight of these half-columns, each fifty-five feet high; the flutings of the shafts are sufficiently deep to contain a man. In the interior the roof was supported by thirty-eight human figures, each twenty-five feet high. One of these has been reassembled from fragments and now lies amid the ruins. This temple was commenced in celebration of the victory of Himera and was still unfinished when Akragas was stormed in 406 B. C.; at present it is wholly ruinous.

Beyond this are other temples, an angle of one of which—known as the Temple of Castor and Pollux—has been re-erected. It is a graceful piece of architecture, still showing traces of the richly coloured decoration. In all there are no less than ten temples to be traced around Girgenti; one of the finest is built into the crypt of a mediæval church. Of other remains perhaps the most remarkable are the aqueducts for the water supply of the ancient city, large enough to walk through. It is said that the prisoners taken at Himera were forced to labour at their construction.

Fifty miles west of Girgenti lies an even more important site, Selinunte, the most westerly Greek settlement in Sicily. Selinus, to give it its ancient name, was founded in 628 B. C., being like Girgenti the offshoot of an older colony. The settlement was of ill omen to the Greeks of Sicily, for the quarrels between Selinus and its neighbour Segesta were the cause of

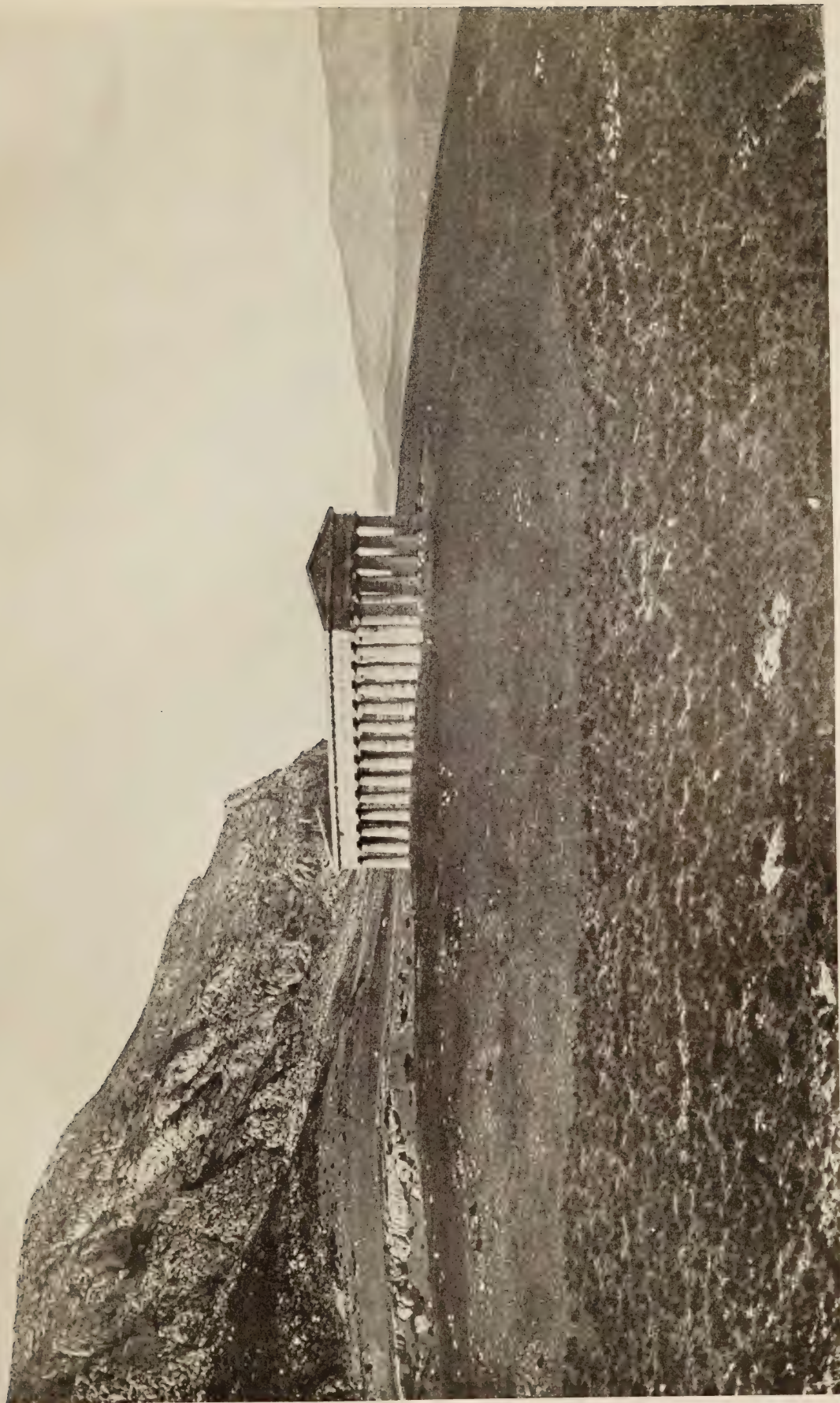


Photo by The Autotype Co.

SEGESTA'S TEMPLE STANDS LONELY AND SILENT AMID ITS CIRCLING HILLS

Not the least excellence of Greek architecture is the sure instinct with which the builders selected the most appropriate surroundings for their temples; and the temple at Segesta is not only remarkable by reason of its exceptional preservation, but thanks also to the extraordinary beauty of its setting. Cupped in a hollow of desolate hills, it is a landmark from the most unexpected places and beckons the traveller far along his road. Its lines seem to blend with the landscape, it rises from a carpet of the wild flowers with which Sicily clothes herself so abundantly in spring, green lizards scamper on its hot stones, and strangest of all, it conveys an impression not of death, like so many ruins, but of lingering life.



Photo by The Autotype Co.

TIME HAS BEEN KIND TO THE TEMPLE WHICH THE SEGESTANS NEVER FINISHED

The temple at Segesta is roofless—indeed it never had a roof, for it was left unfinished. The cella was never commenced, the columns were unfluted, and the projecting bosses left along the edge of the stylobate to provide a purchase for the ropes used in lifting the blocks can be seen; they were, of course, to have been chipped off afterwards. We may wonder what civic catastrophe interrupted the work of construction, but the Segestans, however Hellenised, never forgot their independent origin, and were continually embroiled with their Greek neighbours, so that their city was suffering from almost constant disasters. Their quarrels were the excuse for both Athenian and Carthaginian invasions of the island.



TEMPLE OF CONCORD IN PINDAR'S "MOST BEAUTIFUL CITY OF MORTALS"

Called Akragas by the Greeks, Agrigentum by the Romans, and Girgenti by the modern inhabitants, this prosperous little town boasts an unrivalled cluster of temples and remains strung out along the more seaward of its two ridges, at least one of which, erroneously called the Temple of Concord and illustrated above, is remarkably well preserved owing to having been used as a church through the turbulent days of the Middle Ages. The modern town is on the north ridge only, but the old city occupied all the space in between up to and including the ridge on which the temples stand, and although little now remains of it, the very stones in the fields are largely fragments of broken potsherd.



Photo by The Autotype Co.

WEATHER-WORN COLUMNS OF THE TEMPLE OF JUNO LACINIA AT GIRGENTI

Another imposing ruin at Girgenti is that called the Temple of Juno Lacinia. It must be borne in mind that these names are arbitrary and merely retained for convenience. Although not in such a perfect state of preservation as the Temple of Concord, it enjoys an even finer situation, standing as it does on the brink of an abrupt cliff, commanding a beautiful view of the sea. Of the original thirty-four columns only twenty-two are still intact, but a few more have been partially restored. Akragas was destroyed in 406 B.C. by the Carthaginians under Himilco, and traces of fire are still observable on the stones of this temple. It was a peripteros-hexastyle, and the height of the columns was five times their diameter.



The Museum, Palermo.

FROM THE BIRTH OF GREEK ART—

Found among the ruins of the oldest temple at Selinus, this metope of the first years of the sixth century B.C. illustrates the earliest developments of artistic spirit. Notice the thick limbs, the archaic smiles, and the faulty articulation of the bodies. The subject is Perseus beheading the Gorgon Medusa, from whom Pegasus rises. The female figure is Athene.



IMPORTANT SITES OF ANCIENT SICILY



The Museum, Palermo.

—TO THE BRINK OF ITS CULMINATION

This metope from the beginning of the fifth century, found in the southernmost temple on the east hill at Selinus, represents a great advance in art and technical skill, but it has not yet attained all the freedom of the age of Pheidias. Acteon is being torn by the hounds of Artemis, who urges them on; her arms and face are inlaid with marble, the rest being of the local yellow stone.



VIEW ALONG THE MAJOR AXIS OF THE GREEK TEMPLE AT SEGESTA

One of the most impressive monuments which the Hellenic world has left us is neither in Greece nor built by native Greeks. Egesta in Sicily, or Segesta, as it is now better known, was a town of the Elymians, to whom the Greeks assigned a Trojan origin, but who were more probably a branch of the native Sicilians; Eryx was another of their settlements. They became completely Hellenized, however—sufficiently so towards the end of the fifth century B.C. to start the construction of this typically Greek temple.

two great disasters in Sicilian history. It was the appeal of Segesta for help which was directly responsible for the Athenian expedition of 415 B. C. and the Carthaginian invasion of six years later. On the latter occasion Selinus had to endure the first fury of the storm, and was taken and razed to the ground within a week; of the 60,000 inhabitants, over one-third were massacred outright in the most barbarous fashion, and many others were sold into slavery.

A little later in the course of the war, Hermocrates, a Syracusan soldier, seized the citadel of Selinus and fortified it as a strong point, but the town never again prospered, and after about 250 B.C. the site appears to have been deserted. This fact accounts for the preservation of the complete town-plan and of all the temples of Selinus. Not a building is standing; the Carthaginians levelled everything to the ground, but the fragments have not been touched, and in some cases every stone is lying where the Carthaginians hurled it. So complete are the remains that in some cases it would be possible to rebuild the entire temple from the original material.

Selinus originally occupied a pear-shaped plateau washed by the sea on the south. On the north the fortifications of Hermocrates still remain, an astonishing complex of battlemented walls, subterranean passages, flanking towers, and casemates for catapults, the ancient artillery. On east and west were formerly harbours, now filled up. In its prime the town extended far beyond the limits of the plateau, not only inland but also on either side of these harbours. The temples, styled by one authority "the grandest in Europe," lie in three groups. The first group is at the southern end of the plateau and comprises five temples, including the most ancient of all; the second group, of three, lies beyond the eastern harbour; and a single temple has been found beyond the western harbour. All are built of limestone, with a fine coating of plaster, which largely remains perfect with the original colouring. Remains of sculptured decoration have also been found on three temples. These are now in the Museum of Palermo, and illustrate in a remarkable degree the development of Greek sculpture from the grotesque awkwardness of primitive times to the beauty of the fifth century.

One of the temples of the eastern group deserves special

mention, as it is almost exactly the same size as the colossal Temple of Zeus at Girgenti. It has not the peculiar arrangements of the latter, but follows the normal plan, being surrounded by a colonnade. The columns are fifty-three feet in height; one still exists to give some idea of the vast scale of this shrine, which was dedicated to Apollo. This edifice seems to have been begun before 500 B.C., but was still incomplete in 409 B.C., when the Carthaginians destroyed it. So vast and imposing are its ruins that it is almost difficult to believe them other than the work of nature.

Going inland, twenty miles north of Selinunte are the remains of its old enemy, Segesta, or, as the Greeks knew it, Egesta. This is a city of another type; it is no Greek colony, but was a settlement of the Elymians, a people of somewhat doubtful origin; they may have been a section of the aboriginal inhabitants of Sicily; but there is also an unfounded tradition that they were descended from the ancient Trojans, who fled to Sicily after the capture of Troy. The city was perpetually on terms of hostility with the Greek colonists, particularly with its neighbour Selinus. About 307 B.C., however, it was at last conquered by Agathocles, who treacherously massacred 10,000 of the original inhabitants and established a Greek settlement called Dicæopolis. Under the Romans it changed its name to Segesta and flourished for some centuries, but in the early Middle Ages the town completely disappeared, and nothing now remains but a theatre and a temple.

Despite their hostility to the Greeks, the Segestans were almost completely Hellenised, and their temple, probably built between 450 and 400 B.C., is of the usual Doric plan, similar in every respect to those of Girgenti and Selinunte. It was never completed; the columns were set up, but the flutings of the shafts were left imperfect, the steps of the base were not finished, and the walls of the inner chamber enclosing the temple statue were never commenced. What has been done remains in almost perfect preservation to this day. Although by no means a large temple—it is only 200 feet long—it is perhaps the most impressive in all Sicily; the effect of its simple elegance and lightness is enhanced by its incomparable situation in the midst of a desolate landscape with a background of wild and lonely hills. The diameter of the theatre, hewn from the rock of the



Photo by Alinari.

MEMORIAL AT SEGESTA TO THE SPREAD OF HELLENIC CULTURE

The temple, as shown by this comprehensive view, was of the type known as "peripteros-hexastylus," with six pillars at either end and fourteen on the sides, a total of thirty-six, and it was built in the purest Doric style, which, with its severe, unornate capitals, is perhaps the most pleasing form of Greek architecture. The dimensions are as follows: length of stylobate 200 feet, breadth 85 feet, height of columns and capitals 29 feet, width at base 6 feet, space between columns 8 feet.



Photo by Alinari.

TUMBLING MASONRY THAT MARKS THE SITE OF ANCIENT SELINUS

The remains at Selinunte, the old Selinus, are neither so well preserved nor so beautifully situated as those at Segesta or Girgenti, but they are unique in that they have remained practically untouched except by natural convulsions since the day of the final destruction of the city in 250 B.C. It therefore proved a rich field for the archæologist. This illustration of the Temple of Athene shows the state of the ruins, which cover about ten square miles.



Photo by The Autotype Co.

TEMPLE OF CONCORD AT GIRGENTI, STILL STANDING SOLID AND FOURSQUARE

Another illustration of the so-called Temple of Concord, already mentioned as having been used as a church, which gives an admirable idea of its preservation. Not all its details have remained unaltered, as the arched openings in the cella wall were pierced in Christian times; but, especially if viewed from the northern ridge, it looks almost as it must have looked in the beginning. It is a peripteros-hexastylos, that is, the cella is completely surrounded by columns, of which there are six at either end.

hill on which the ancient town was built, is 205 feet, and it is fairly well preserved; but of the town itself little has been excavated beyond a few mosaic pavements.

These three towns, with the exception of Syracuse, with its mighty walls and forts, constitute the chief sites of Sicily; but, if history by itself were insufficient, there are not wanting many other remains scattered around the coasts of the island to attest the wealth and artistic vigour of this, the most western home of Greek power in ancient times.

THE WONDER CITIES. VII
BABYLON THE GREAT
BY H. R. HALL, D.LITT., F.S.A.

BABYLON THE GREAT

By H. R. HALL, D.LITT., F.S.A.

Deputy Keeper of Egyptian and Assyrian Antiquities, British Museum

“**B**ABYLON the Great is fallen, is fallen!” Babylon the Great! The words call up a vision of ancient greatness and splendour long passed away, of terraced towers rising to the heavens, of courts thronged with worshippers, of altars smoking with incense and the reek of hecatombs, of the mighty River Euphrates slowly rolling between palaces and temples like the Ganges at Benares. Here stately pleasure-domes surpassing those of Xanadu, there triumphal roads and gates rivalling those of Egyptian Thebes:

Where twice ten score in martial state
Of valiant men with steeds and cars march'd through each massy gate.

Babylon was the greatest city of the ancient world, and so we speak of London as “the modern Babylon,” though it is a question whether the English metropolis may not soon have to resign this title to Greater New York, or eventually, perhaps, even to Buenos Aires. And Babylon the Great is fallen. What the site of the great city looks like now can be told you by many a British officer and man who made the campaign of Mesopotamia during the Great War.

A wide expanse of sandy mounds fringed on the side of the river by groves of stumpy palms, among which are the mud-huts of the villages of Kweireh and Jamjama, and on the other by a low line of mound-covered wall like the Devil's Dyke at Newmarket, beyond which is the single track of the Bagdad-

Basra railway, coming from Mahâwil in the north and going south to Hillah. By the side of the line is a board supported on two poles on which is painted "Babylon Halt." This is the railway-station of Babylon. Here one descends from the cars, and either walks on to the ruins or is carried thither by a ubiquitous "Ford," a *trombêl* (? *tumbril*), as the natives for some obscure reason are in the habit of calling it.

At Kweireh, by the water-side, is the ex-headquarters and residence of the German excavators before the war, now a rest-house and museum. Here we can eat and rest in the shade. On the mounds there is none, and no vegetation but scanty grass. Standing up out of the mounds one sees chaotic masses of brickwork, looking like the remains of some fort blown to fragments by high-explosives, brickwork so hard that one wonders how anything short of a severe earthquake can have riven it in this extraordinary manner. These are the ruins of El Kasr (the castle), as it is appropriately called, the southern citadel of Nebuchadrezzar. To the north of it stands the curious stone lion, trampling on the prostrate figure of a man, which has always remained uncovered, and was seen by many visitors long before the German excavations. It is not of Babylonian style, and is probably some work of foreign sculptors in the north, possibly Hittites, brought to Babylon as a trophy of war. It is not inscribed. A definitely Hittite monument, with Hittite inscription, was found near it, which is certainly a war trophy.

To the south is the great palace of Nebuchadrezzar, built over an earlier palace of his predecessor, Nabopolassar, part of which survives. To the uninstructed eye this seems merely a great shallow hole, full of formless and meaningless brickwork. Yet its plan has been carefully made out by the German excavators, and with this in hand we gradually see order in the disorder, and can pass from hall to hall of the palaces of the two great Babylonian kings.

On its southern side is what remains of the great hall in which, it is suggested, Belshazzar saw the vision of the Writing on the Wall which is recorded in the Book of Daniel. At its north-eastern corner, near the Ishtar Gate, is the tumbled mass of brick arches which the excavators consider to be probably the foundations of the Hanging Gardens which Nebuchadrezzar



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BRICKS OF BABYLON, THE CITY THAT ASTOUNDED THE ANCIENT WORLD

Of all the cities of antiquity, none may be more justly called a Wonder City than Babylon. The renown of Hundred Gated Thebes is merged in the more general wonder of Egypt; even Nineveh has achieved more fame as a power than as a town. But Babylon seems to sum up in itself the romance and the glory of a whole civilisation. This is partly, no doubt, because Babylon survived to amaze the inquiring minds of men like Herodotus at a time when the very site of Nineveh was forgotten.



Photo: Crown Copyright.

EL KASR AT BABYLON, PALACE AND FORTRESS OF NEBUCHADREZZAR

This photograph shows the nature of the ruins from which archæologists have the arduous task of reconstructing ancient Babylon. The excavations are those conducted on the site known as El Kasr, the old citadel, where Nabopolassar, and his son Nebuchadrezzar after him, built their palaces, and where the remains were found which have been identified with the Hanging Gardens. Nebuchadrezzar also built a larger and newer citadel farther north, the site of which is now marked by the mound Babil.



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SECTION OF BABYLON'S WONDERFUL STONE-PAVED PROCESSIONAL ROAD

Along this mighty Sacred Way, a section of whose breccia pavement is here shown unearthed, Nebuchadrezzar passed in pomp with the gods of Babylon, when they were borne in procession on festal days. The road stretched from without the city in the north, passed through the Ishtar Gate, and followed the east side of the citadel till it reached Ê-temen-an-ki. Here it branched to the right, followed the southern wall of the precincts, and crossing the Euphrates by one of the earliest known bridges, passed out of the city.



Photo: Crown Copyright.

STONE "LION OF MESOPOTAMIA" AMID ITS DESOLATE SURROUNDINGS

Roughly blocked though the statue of the Lion may be, there is a wonderful strength and virility about it. And it is strange that for so many long years the only thing remaining above ground to mark the habitation of a cruel and powerful people should be the handiwork of one of the foreign races upon whose necks the hand of Babylon was heavy. Yet the good she did must not be overlooked, for as Rome spread the culture of Greece, so did Babylon the civilisation of her predecessors the ancient Sumerians.



Photo by Underwood Press Service.

TERRA-COTTA COFFINS IN WHICH THE BABYLONIANS LAID THEIR DEAD TO REST

The bath-like receptacles illustrated above are relics of the burial customs of the ancient Babylonians. They are terra-cotta sarcophagi, and though the bodies placed in them were not mummified, as in Egypt, the bones of twenty-five centuries ago are still well preserved. It was in one such coffin discovered in Nebuchadrezzar's palace, perhaps Nabopolassar's tomb, that a gold plaque was found engraved with important architectural evidence.



Left, from a stele in Royal Museum, Berlin; right, from a cast in the British Museum.

MERODACH-BALADAN AND HAMMURABI, FAMOUS BABYLONIAN KINGS OF AN EARLIER AGE

On the left, Merodach-Baladan II. making a land-grant to a vassal. He was a thorn in the sides of Sargon II. and Sennacherib by reason of his continual revolts during the period of Assyrian domination. On the right, Hammurabi, a king of the first Babylonian dynasty about 2200 B.C., shown on a stele in the act of receiving from the sun-god the laws which are carved below. The discovery of these laws and similar legal documents shed much light on early Babylonian social organization.



Photo by Underwood Press Service.

VAULTED BRICK BURIAL-CHAMBERS OF BABYLONIA

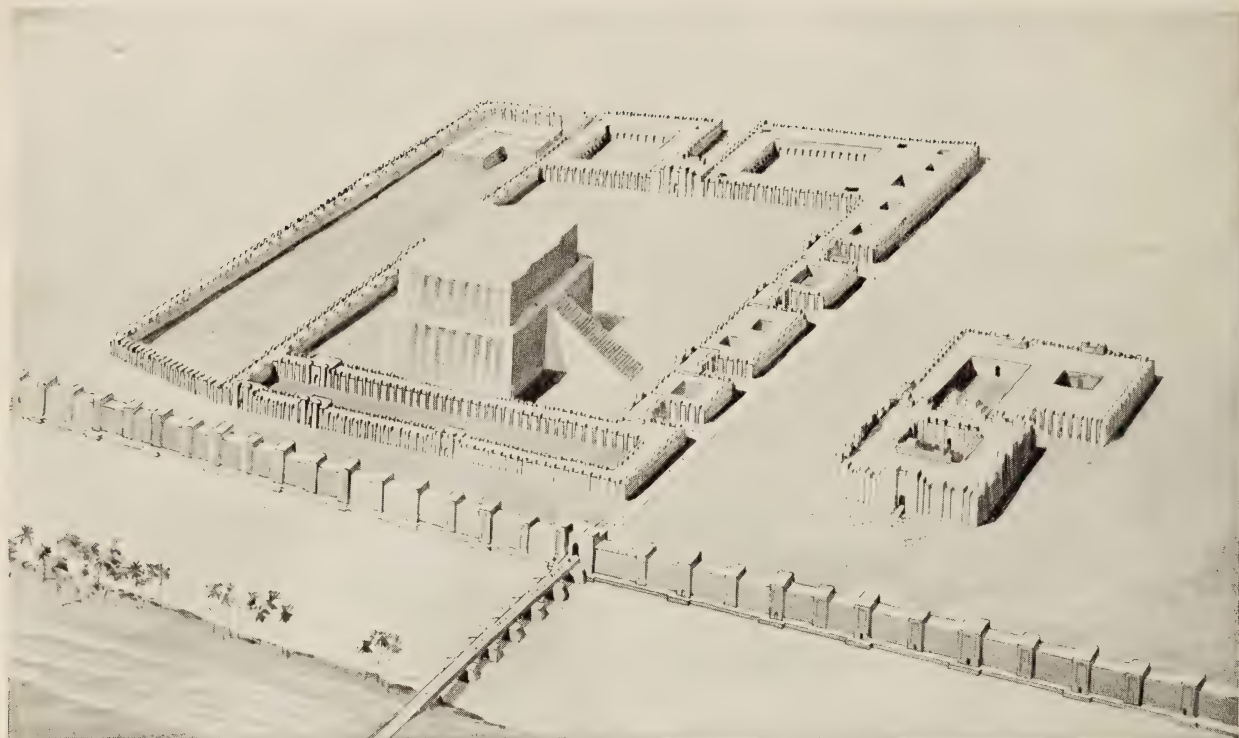
From this illustration may be seen the way in which tombs were built in Babylonia. They were vaulted and constructed, not of kiln-baked, but of sun-dried bricks; a stepped passage led down to each one, and they were large enough to contain several of the terra-cotta sarcophagi. They were thus probably family tombs. But the Babylonian burial customs have not produced finds of such archæological interest as those in Egypt, the Babylonians being more concerned with this world than the next.



Photo by Underwood Press Service.

LION THAT FOR CENTURIES HAS DOMINATED THE RUINS OF BABYLON

The so-called "Lion of Mesopotamia" has long been visible on the north of the Kasr mound, and has excited the wonder of visitors; it is in the attitude of trampling a man underfoot. There is about it, however, nothing suggestive of Babylonian sculpture, and the conjecture has been made that it was a trophy of war, captured perhaps from the Hittites, a powerful and somewhat mysterious people of Anatolia with whom we find Egyptians, Assyrians, and Babylonians in conflict from the fifteenth century B.C. onwards.



After Andrae & Koldewey.

RECONSTRUCTION OF BABYLON'S MOST SACRED SHRINE, THE "TOWER OF BABEL"

On the right may be seen Ê-Sagila, or the temple of Babylon's patron god Marduk, while Ê-temen-an-ki on the left—the "House of the Foundation Stone of Heaven and Earth"—was the adjacent temple-tower standing within its own extensive precincts. According to some reconstructions it had eight stages, and not two, as here; while recent excavations prove that two more flights of steps flanked the central flight on either side. In front are the river-wall of Nabonidus and the Euphrates, in its old course, crossed by Nabopolassar's bridge, which at this point carried the Great Processional Way over the river.



After Andrae & Koldewey.

RECONSTRUCTION OF NEBUCHADREZZAR'S PALACE AND CITADEL AT BABYLON

The central part of this reconstruction is the Palace of Nebuchadnezzar on the mound El Kasr, viewed from the north; the small building on the left is the Temple of Ninmakh, and between the two runs the great Sacred Way spanned by the Ishtar Gate. Along the right hand side of the Palace successive lines of walls were thrown out for enlargement. The building with three openings to be seen in the midst of the Palace is the famous throne-room of Nebuchadnezzar.



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SOUTH OF BABYLON STOOD BORSIPPA, WITH ITS TEMPLE-TOWER

The mound of Birs-Nimrūd here illustrated marks the site of Borsippa, and has in the past been identified with the famous Tower of Babel, although it is Ê-temen-an-ki at Babylon which must have given rise to the Biblical stories. Of the mighty tower which once adorned Ê-Zida, the temple of Nabu, only this riven mass of brickwork remains projecting like a fang from the rubbish. It owes even this state of preservation, however, to the fact that the bricks have been vitrified by the action of fire.



Photo: Crown Copyright.

RELIEFS ON THE WALLS OF Ê-SAGILA, SHRINE OF THE GOD MARDUK

The walls of the Sacred Way outside the Ishtar Gate, the gate itself, and the walls of Ê-Sagila, the Temple of Marduk, were all elaborately decorated with many-coloured reliefs of animals and friezes of rosettes, executed in glazed brick. Of these nothing but fragments remain to us. But luckily the same design was continued, although unglazed, beneath the pavement-level, whereby such wonderful examples of Babylonian glyptic art as those illustrated above have been preserved. Outside the gate were lions, sacred to Ishtar, and inside, as here, alternate bands of bulls and dragons, or "sirrushes," emblems of Marduk.

built for his Median queen, who so longed for the hills of her native country that to gratify her the king erected artificial hills, covered with trees and greenery, in which she could imagine herself at home. These were the famous Hanging Gardens of Babylon, one of the wonders of the world to the ancients. If these are their remains, they were heaped up on a foundation of tall brick arches crossed and braced together, and, but for the fact that they were covered with earth and planted, must strangely have resembled the Mappin Terraces in the London "Zoo" (see Frontispiece and illustration facing page 294).

The method of construction was the same, but for the fact that the moderns used reinforced concrete for the substructure. One is not told that Nebuchadrezzar thought of the further London development of turning the sub-structure into a vast aquarium for the amusement of some Phœnician queen! It might be wished that the Zoological Society of our modern Babylon would not only, as it is doing, build an aquarium beneath its terraces, but would plant the arid hills above and turn them into new Hanging Gardens; but the goats would eat up every vestige of greenery before it would have time to grow.

At this north-east corner of the palace is the famous Ishtar Gate, famous only to us moderns, for the ancients do not mention it. The excavation of this gate is, perhaps, the greatest triumph of the chief German archæologist, Prof. Koldewey, and his staff. From the northern part of the Kasr to the Temple of Bel-Marduk in the south Nebuchadrezzar built a great processional way flagged with breccia and "mountain" stone, which passes through the Ishtar Gate and along the eastern side of his palace. This great road, which was called Aiburshabu, was originally built on a lower level, but later the king rebuilt it at a higher altitude, and the buildings along it rose higher with it, including the Ishtar Gate.

The road, which was straight for the greater part of its length till it curved round to the Temple of Marduk, rises slightly towards the Ishtar Gate and then gradually descends, so that it passed high over the centre of Babylon like a flattened bow, and we can imagine the procession of the god Marduk passing along it to the sound of the trumpets and shawms in all the pomp and circumstance of the time. We can hear the resound-

ing echoes as the music passes under the great brick arches of the Ishtar Gate.

When one looks at the pictures of the gate it is difficult to realise that when Prof. Koldewey began his work nothing of it was visible above ground. He has excavated the whole, finding it in a marvellous state of preservation up to the level of Nebuchadrezzar's completed road, or a little higher. Above this, which was found but little below the modern surface, it had disappeared, only the lowest courses remaining of the wonderful relief decorations of polychrome enamelled brick with which the king adorned it when he built it higher to dominate his road. Then the portion which we now see, forty feet high, was buried, notwithstanding its fine relief decoration, of the same type but not enamelled. These reliefs consist of solitary figures, one above the other on each face of the towers, of bulls and "sirrushes," or dragons, of the god Marduk. They are built up of special bricks, all of the same size, each made with some portion of the relief upon it. The processional way was lined with similar polychrome relief figures of lions. The same kind of decoration may be seen in the modern pottery relief brickwork of the Victoria and Albert Museum.

Just beyond the Ishtar Gate are the crude-brick remains of the ancient temple of the goddess Ninmakh, and farther along is the similar Temple of Ishtar. These temples were built of crude (*i.e.*, unbaked) brick from motives of religious conservatism ("for a certain sacred reason," as Herodotus would have said); the older material was retained for them when palaces were built of burnt brick. On the way to Ishtar's temple we pass on the right an arched door of Nabopolassar, afterwards filled up by Nebuchadrezzar, when he heightened the level of the palace and altered its plan. His bricks are quite different in colour from those of his predecessor. Here and there we notice the care with which the names of the different buildings (and even plans of them) have been put up by General E. V. Costello, V.C., during his tenure of the military command at Hillah. General Costello wrote a short guide to the ruins for the use of his officers and men.

To the left is what is called the Merkes, or "market," where Koldewey found the little that has been found of the houses of



Photo by Underwood Press Service.

Ê-SAGILA, WHERE DWELT THE IMAGE OF BABYLON'S HERO-GOD

A reconstruction of Ê-Sagila, the Temple of Marduk, appears on another page; here is a view of one of the excavations which have made such reconstructions possible. The two walls in the centre of the crater-like pit mark the commencement of a passage connecting the temple proper with its tower to the north. Marduk occupied the same position in Babylon as Ashur in Nineveh; originally the good genius of the town, he rose in importance among the other gods with Babylon's attainment of political supremacy.

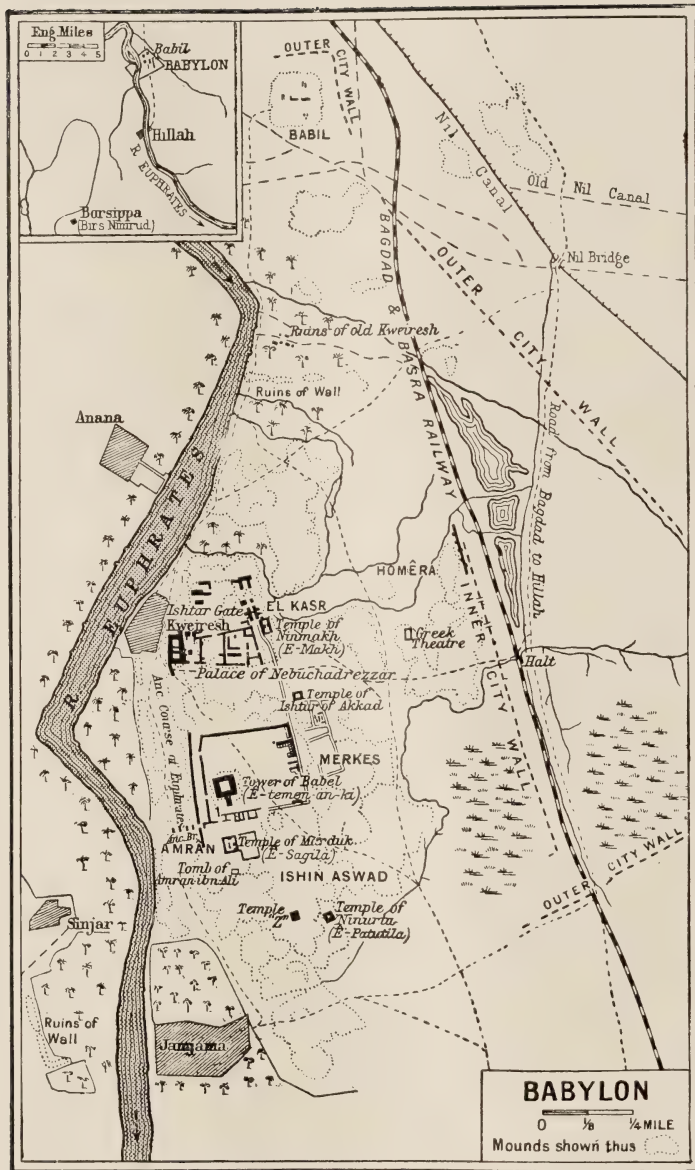




Photo: Crown Copyright.

ARCHWAY IN NABOPOLASSAR'S WALL AT BABYLON

On the eastern side of the citadel there have been discovered the remains of a wall erected by Nabopolassar and subsequently buried and built over by Nebuchadrezzar when he enlarged his palace. The section of this wall illustrated here is of particular interest as it shows a postern gate with a perfect keystoned arch.



Photo by H. R. Hall.

THE ISHTAR GATE, CROWNING GLORY OF BABYLON'S SACRED WAY

Although the Ishtar Gate must once have been a strategic point in the defences of Babylon, piercing as it does the two great walls, Imgur-Bel and Nimitti-Bel, at the time when Nebuchadrezzar rebuilt it with lavish expense it was well within the outer fortifications and formed a sort of triumphal approach to the Sacred Way. The pavement of this road was successively raised, and it is below its present level that the extant portions of the gate were found. This photograph shows the Temple of Ninmakh in the distance.

the ancient city; to the right, in a depression known as the "Basin" (es-Sahn), is the Tower of Babel, or what remains of it. All we see is a great square mass surrounded by a deep moat. This is the lowest course of the temple-tower Ê-temen-an-ki, which is undoubtedly the traditional Tower of Babel. Farther on, in the depths of an immense excavation, seventy feet down in the mound of Tell Amrân, are the scanty remains of Ê-Sagila, the Temple of Marduk. Two other crude-brick temples, Ê-Patutila, the shrine of the god Ninurta or Enurta, and another, lie farther south still. And here Babylon ends.

To the west, towards the river, are the remains of a brick bridge, which spanned the Euphrates before it was diverted farther to the west. In ancient times it followed a course very different from that of to-day, as it flowed south from the vicinity of the mound Babil through the heart of Babylon and rejoined its present bed outside the southern walls of the city. Babil was a military citadel built by Nebuchadnezzar on a mound north of the city. Its ruins are the most imposing mass of brickwork at Babylon, and fitly preserve the ancient city's name.

The great inner walls of Babylon, Imgur-Bel and Nimitti-Bel, met at the Ishtar Gate. The latter passed east and then south, and is the wall or dyke running parallel with the railway. Farther out again to the east is the great outer wall, which has not been excavated. Beyond it, again, are ancient lines of circumvallation, the relics of former sieges. To besiege Babylon must have been an immense task, nor can anybody ever have besieged more than a part of it at one time. When the Persians took it they got in by a water-gate of the Euphrates. In Nebuchadnezzar's time the city measured nearly five kilometres ($3\frac{1}{2}$ miles) in length by three broad from the outer wall to the Euphrates west of the Temple of Marduk. It may have crossed the river here, and been broader. The accounts of its size given by the ancients were enormously exaggerated, but it was big enough in all conscience for an ancient city, immensely larger than any other ancient city.

There is no need to suppose, as some have done, that it extended for miles to the south-westward so as to include the ancient Borsippa, where the great ruined ziggurat, or temple-tower, now known as Birs Nimrûd lifts to the sky its jagged

tooth of riven brickwork, vitrified by the fierce fire of some besieger, fed, perhaps, by natural pitch from Hit or by crude oil from Elam. Borsippa was a distinct city.

The extant remains of Babylon bear everywhere the impress of the great Nebuchadrezzar. He remodelled it from end to end during his reign, so that it has been difficult for the modern excavators to discover anything much earlier than his time, though, as a matter of fact, Babylon was in his day a very ancient city. It was the capital of the great law-giver Hammurabi, fifteen hundred years before.

Of later remains, of buildings erected after his day, we have a Persian "apadâna," or summer palace, at the west end of the Kasr, and Greek remains, a theatre, and a "palaistra," or gymnasium, close to Nimitti-Bel and the railway. Here, too, rises the artificial mound which Alexander erected for the cremation of his dead friend Hephaistion, still bearing the traces of the funerary pyre, and from its red burnt earth known as Homêra, "the ruddy." Alexander pulled down part of the wall to build this mound, and the flames of the gigantic pyre must have been an awe-inspiring sight reflected in the waters of the Euphrates, which then flowed between it and the palace.

In the palace died Alexander the Great. Nabopolassar, Nebuchadrezzar, Belshazzar, Cyrus—these are the selfsame buildings they built or saw. Here they lived, designed, caroused, conquered, and died. "Babylon the Great is fallen, is fallen!" How are the mighty fallen!

They say the Lion and the Lizard keep
The Courts where Jamshýd gloried and drank deep:
And Bahram, that great Hunter—the Wild Ass
Stamps o'er his Head, but cannot break his Sleep.

Tamâm shud! (it is finished). Babylon the Great will rise no more. But modern archæology can tell us enough to call something of its ancient power and glory from the darkness of the dead past.



Photo by Underwood Press Service.

RUINS ON THE SOUTHERN CITADEL AT BABYLON

The fact that Nebuchadnezzar's palace on El Kasr was largely built over earlier structures of his father gives rise to the extraordinary complexity of these brick foundations. The Ishtar Gate was just outside the north-east corner of the citadel, and gave access to the Processional Way which ran along the eastern wall.



Photo by Underwood Press Service.

HOW BABYLON'S CITADEL IS BEING EXCAVATED

A deep trench dug on the crest of the Kasr mound to lay bare the foundations of the buildings which once crowned it. These are the methods which are revealing to us the magnificence attained by Babylon during its short span of imperial power between the reigns of Nabopolassar and Nabonidus (607-539 B.C.).

THE SEVEN WONDERS. III
THE STATUE OF ZEUS AT OLYMPIA
BY A. H. SMITH, M.A., F.S.A.

THE STATUE OF ZEUS AT OLYMPIA

BY A. H. SMITH, M.A., F.S.A.

Keeper of Greek and Roman Antiquities, British Museum

THE various lists of the Seven Wonders given in the works of Greek and Latin authors always include the statue of the Olympian Zeus at Olympia, by Pheidias. But in comparison with the Pyramids, or even with the Mausoleum, or the Temple of Artemis at Ephesus, the Statue of Zeus (the Roman Jupiter) was a perishable object, and now it is only the shadow of a name.

Except on the minute scale of coins we have no direct copy to give an idea of its details. The excavations at Olympia produced nothing except the foundation and lower course of its pedestal. In literature it is a subject of frequent reference, but we have only one straightforward description, that of the traveller Pausanias, who visited Greece in the latter half of the second century of our era.

The reader must bear in mind the relationship between Olympus, the Olympian Zeus, and Olympia. Olympus, a word of unknown origin, was applied to many mountains in Greece and Asia Minor. One in particular, the highest mountain in Greece, on the borders of Thessaly and Macedonia was the house of the gods. By a gradual transition the idea of Heaven was substituted in a more sophisticated age for the mountain summit. Zeus was thence Olympian Zeus, and one of the chief seats of his worship was called Olympia, which lies in the valley of the Alpheus on the border of the Plain of Elis in the north-west corner of the Morea. The games held there were the Olympic games; and the four-year interval at which the

games were held was an Olympiad. The Latin deity Jupiter was regarded by the Romans as identical with Zeus.

In spite of the growing prestige of the Olympic games, there is no reason to suppose that there was an important sanctuary to Zeus at Olympia until after the great national upheaval of the Persian wars. Then the people of Elis determined to erect a worthy Temple of Zeus with a splendid image of the god. The Temple was built between 480 and 450 B.C., but it had to stand empty for nearly a generation until Pheidias should be set free from the construction of the Athene Parthenos and the general superintendence of the adornment of the Parthenon on the Acropolis of Athens. Our knowledge of the form of the new Temple is derived partly from the description of Pausanias, and partly from the excavations carried out by Germans between 1875-1881.

The Temple was a Doric structure with six columns at its ends, and thirteen along its sides. Its inner chamber measured ninety-five feet by forty-three feet, and was divided by two rows of columns into a nave and two aisles. At one end of the central nave were found stones giving the limits of the pedestal of the Statue of Zeus. Here the god sat enthroned. The sculpture, like the Athene Parthenos at Athens, and the Asklepios of Thrasymedes at Epidaurus, was of the work known as *chryselephantine*—that is, a combination of gold and ivory. Gold plates were fastened about a wooden core of timbering in the form of the draperies, while a striking contrast was supplied by slices of ivory which were used for flesh. The effects of the gold and ivory were then heightened by all the arts of the jeweller, the engraver, the painter. The building which Pheidias had used as his workshop was still known by that name when Pausanias visited Olympia some six hundred years later. An orator, Himerius, observes that Pheidias used but a small workshop, but Zeus was fashioned in it, and so, too, was the Parthenos.

We will now enter the Temple with Pausanias as a guide book, but will take the liberty of abridging Pausanias's description by the omission of mythological detail.

As we enter the doors of bronze we have on the right, in front of a column, Iphitus, crowned by a woman Ekecheiria (Armistice personified), as the attached inscription tells. Pil-



From a painting by Charles M. Sheldon, based on Pausanias, and specially made for "Wonders of the Past."

THE ZEUS OF PHEIDIAS, LOFTIEST EMBODIMENT OF DIVINITY IN ART

Constructed by Pheidias, the Athenian, the statue of Olympian Zeus which adorned the temple at Olympia in Elis was universally conceded to be one of the Seven Wonders of the World. And this reconstruction in colour makes real for us the seemingly exaggerated expressions of admiration which it elicited from the ancients. "The sight of the figure would make a man forget all his troubles, however worn out he might be with sleeplessness and sorrow," said Dio Chrysostom, the orator.

lars stand inside the Temple with upper galleries, and a way of access through them to the statue. There is also a winding way to the roof.

The god, who is made of gold and ivory, is seated on a throne. On his head is a wreath imitating sprays of olive. On his right hand he carries a Victory. She, too, is made of ivory and gold; she carries a fillet, and has a wreath on her head. In the left hand of Zeus is a sceptre, curiously adorned with all the metals. The bird perched on the sceptre is the eagle. The god's sandals are made of gold, and so, too, is his garment. Wrought in the garment are figures of beasts and lilies. The throne is adorned with gold and jewels, ebony and ivory. Upon it, too, beasts are painted and images are wrought.

Between the legs of the throne are four bars, each reaching from leg to leg. These legs are not the only support of the throne. There are also as many columns which stand between them. We cannot go in under the throne as we pass under the throne (of Apollo) at Amyclæ. At Olympia barriers like walls fence us out. Of these barriers the one that faces the doors (of the Temple) is coloured dark blue only. The others have paintings of Panæus, a brother of Pheidias. His Battle of Marathon is painted in the Stoa Poikile at Athens.

On the base which supports the throne and all the rest of the splendour of Zeus are golden figures. I know, Pausanias continues, the measurements which have been recorded for the height and breadth of the Zeus at Olympia, but I cannot commend the measurers, for the dimensions which they give fall far short of the impression on the spectator, and herein it is said that the god himself bore witness to the art of Pheidias. When the statue had just been completed, Pheidias prayed the god to give a sign if the work was to his mind, and straightway a thunderbolt struck that part of the floor where, even to my time, stood the bronze pitcher. That part of the floor which lies before the image is paved with black stones, not white—a kerb of Parian marble runs round the black and retains the olive oil that is poured out.

Pausanias goes on to say that olive oil suited the gold and ivory figure at Olympia because the site was damp, while water was used for the Athena Parthenos at Athens because the air

was too dry. At Epidaurus neither oil nor water was required because the figure stood above a well.

The above description of Pausanias was the sole basis for a brilliant restoration made, a hundred years ago, by Quatremère de Quincy, on which is largely based the illustration given in colour facing page 320. What further progress can now be made? The excavations have given us the black flooring before the statue with its marble kerb, and also the foundations of the pedestal, which measures 22 feet by 33 feet. Stones of the pedestal have also been found and put together, making the base a mass of masonry some four feet high, but no trace remains of the reliefs which Pausanias saw attached to them. The same excavations showed traces of the footing of the barrier walls, painted by Panæus. These are thought by many authorities to have joined column to column of the interior colonnades of the temple. On this basis sat the enthroned figure, which is calculated by authoritative writers to have been seven or eight times life size. It was a current criticism that the god could not stand up without striking the roof with his head. The relation of the god to the temple is best shown by the sectional view with Adler's restoration.

The best evidence that we can find for the general appearance of the statue is a bronze coin of Elis, of the time of Hadrian. Only one example is known to exist, and that is at Florence. The whole majesty of the figure is reduced to less than an inch in height, and the engraving of the coin is not executed with the meticulous precision and microscopic detail which would be shown by a modern artist working with a reducing machine. We see a stately and formal figure of the god, on whose outstretched palm the Victory has alighted with a fillet between her spread hands. No eagle is shown on the sceptre. The throne has a high back, and arms supported, like the arms of the chair of Zeus on the frieze of the Parthenon, by figures of Sphinxes, as described by Pausanias. Beneath the god's feet is an ornate footstool. The bars described by Pausanias join leg to leg, but we see no trace of the pillars between the legs, which were probably set back from the front. The enclosing barrier walls are not indicated.

Pausanias does not attempt to describe the head of the god.

It was a common tradition that Pheidias was asked by Panæus of what type he intended to represent the Zeus, and he replied that he wished to convey in sculpture what Homer had expressed in words: "The son of Kronos spake, and nodded assent with swarthy brows, the king's ambrosial locks flowed downwards from his immortal head, and he shook great Olympus." We are told that the sight of the statue made a profound impression on Paulus Æmilius, the Roman conqueror of Macedonia. He went to Olympia to see the sights, and he "was moved in his soul, as if he were looking at Jove in very presence." Quintilian says that the beauty of the statue was such that "it seemed to have added something to accepted religion, so completely was the majesty of the work on a level with its subject." Dio Chrysostom, the orator, tells us that the sight of the figure would make a man forget all his troubles, however worn out he might be with sleeplessness and sorrow.

If we try to get a more precise idea of the character of the head, we must make use of another unique coin of Elis. The head has long hair, falling straight down the neck, a full beard and a moustache, which, after the manner of early fifth-century sculpture, has long ends falling over the beard. The wreath of olive is carefully and delicately shown. From the indications of the coin, and from our knowledge of the sculpture of the time, it is now clear that we must not look, as our grandfathers were in the habit of doing, among the sophisticated and elaborate statues in the Roman galleries, for an embodiment of the type. The Zeus of Olympia must have always struck a later Greek or Roman as somewhat old-fashioned. Its effect lay rather in that austere and reserved formality, which, in the history of art, is apt to mark the works of a time when maturity has been reached, but the restraint of an earlier style still makes itself felt. If we search our collections for a head of Zeus which, without being a direct copy, yet illustrates the qualities described, we cannot do better than quote a head in the Museum of Boston, to which the late Adolf Furtwängler drew attention, as having just the characteristics of which we are in search.

Apart from the grandeur of the figure itself, the work was noted for the rich variety of its subsidiary sculptures, which formed a mythological text book. The Hours and the Graces

stood in groups, three in each, at the top of the throne, above the head of the figure. Sphinxes with Theban youths supported the arms. Below the Sphinxes were reliefs of Apollo and Artemis slaying the children of Niobe. The crossbars had reliefs of Olympic sports, and of Heracles and Theseus at war with the Amazons. Victories supported the legs of the throne. On the base, Aphrodite came up from the sea, in the presence of the gods. The rising sun and setting moon marked the limits of the scene, as on the east pediment of the Parthenon. Finally, the barrier walls at the sides and back of the throne were painted by Panæus with a group of Greece and Salamis personified, and with eight pairs of mythological figures.

The later history of the statue is lost in uncertainty. The Emperor Caligula, we are told, had a madman's scheme of transporting the Zeus to the capitol at Rome, and of substituting his own head for that of the god. But his workmen were driven away by terrifying peals of supernatural laughter which broke out when they laid hands on the throne, and the vessel sent to transport it was struck with thunderbolts and shipwrecked. The end is unknown. A scholiast states that the temple was burnt, and the Olympic gatherings came to an end at the beginning of the fifth century. A short notice in the Byzantine historian Cedrenus, to the effect that the statue stood in the Palace of Lautus at Constantinople (burnt in 475 A.D.), is probably based on a misunderstanding. Probably the figure perished at Olympia in one of the earthquakes, or barbarian sacks which afflicted fifth-century Greece.

RECORDS OF THE TOMBS. VI
THE WONDER OF THE MUMMY
BY G. ELLIOT SMITH, M.A., M.D., LITT.D., F.R.S.



THE WONDER OF THE MUMMY

By G. ELLIOT SMITH, M.A., M.D., LITT.D., F.R.S.

Professor of Anatomy, University of London

THE ancient Egyptian practice of preserving the bodies of the dead has excited the wonder of mankind for many ages. It has aroused the curiosity of those who have visited or read about Egypt ever since the time of Herodotus, the first tourist to put on record his impressions of Egypt and its strange customs almost twenty-four centuries ago. For nothing excited his amazement more than the information he gathered with reference to mummies and the methods of the embalmer's art.

It is, however, with feelings other than those of mere curiosity that we must contemplate the practice of an art which has made it possible for us to gaze upon the actual faces of the men and women who dominated the civilised world thirty centuries and more ago. But the study of this strange practice reveals much more wonderful results than the sentimental interest of seeing these mighty rulers of antiquity and experiencing the feeling of the reality of ancient history. For the invention of embalming was very intimately connected with the development of the essential arts and crafts of civilisation and of many of man's deepest beliefs. It was also responsible for creating the literary symbols that give expression to such aspirations as "this corruptible shall put on incorruption and this mortal shall put on immortality." Among the ancient Egyptians the first glimmering of the idea of immortality was suggested by the possibility of rendering the corpse incorruptible; and in their case the logical sequence suggested in the Christian burial service of to-day was something more than a mere verbal analogy.

The carpenter's craft was originally devised for the purpose of making coffins for the dead, and it was intimately related to the invention of mummification in Egypt. The art of working stone, not merely making rock-cut chambers, but also shaping stone for building, was also prompted by the same desire; and it is no exaggeration to say that the craft of the stonemason and the art of architecture are both due to the attempt to preserve and protect the bodies of the dead more effectually. So also portrait statuary developed from the need to preserve an image of the dead when it was realised that the mummy itself lost its semblance to the deceased as he was during life.

The wonder of mummification thus depends not only on its sentimental appeal, but on the part it played in originating several of the most essential elements of civilisation and shaping the nascent beliefs of mankind for all time. But apart from all these admittedly serious claims upon the attention of the historians of art and belief, the practice of embalming is such a bizarre and gruesome business that it is a question of psychological interest and wonder to discover how mankind was impelled to resort to such a repellent custom. Great as is the dislike which the modern European experiences at the mere thought of cutting, or in any way mutilating a dead body, although long centuries of practice of the anatomist's art should have familiarised him with the idea and reconciled him to its usefulness and necessity, it is difficult for us to realise the intensity of the feelings with which a people like the ancient Egyptians must have regarded such desecration. For they did not attempt to preserve the bodies of their dead by artificial means until they had acquired the most profound respect for, almost approaching to worship of, the corpse, and the most intense loathing of any such mutilations as are unavoidable in the practice of embalming. Yet, paradoxical though it may seem, it was precisely these ideas of the importance and sanctity of the dead that impelled the Egyptians to try to preserve the body and to persist in their attempts to attain this aim in spite of all the gruesome and disgusting results incidental to the experimental stages of the invention of so strange a custom.

Insistence has been made upon these aspects of the practice of embalming to impress upon the reader's mind the fact that



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EXAMPLES OF AN ART THAT WAS PRACTISED IN EGYPT FOR AT LEAST 4,500 YEARS

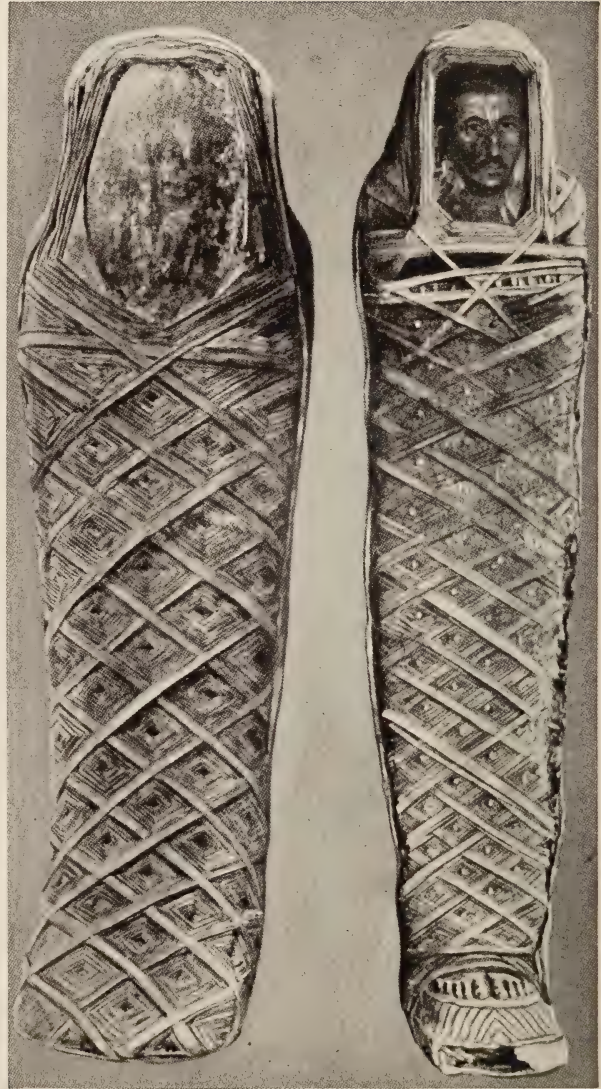
1. Cartonnage case of an unknown Egyptian priestess of the Ptolemaic period. 2. Coffin and mummy of an unnamed princess; the mummy is not now in the coffin. 3. Mummies of Greek children from the Fayyum, A.D. 200. That on the left is prepared with bitumen, and head and shoulders are covered with a gilded cartonnage, and the child is holding a bunch of red flowers in the left hand.



From "*Roman Portraits and Memphis (IV.)*," by W. M. Flinders Petrie.

STILL MORE ELABORATE WRAPPINGS

Two other styles of wrapping are here shown; in both examples the bandages form rhombus patterns, but in the one on the left each cavity has a square of gold-foil at the bottom, while in the other case these squares are replaced by gilded stucco buttons.



From "*Roman Portraits and Memphis (IV.)*," by W. M. Flinders Petrie.

MUMMY-WRAPPINGS OF THE ROMAN AGE

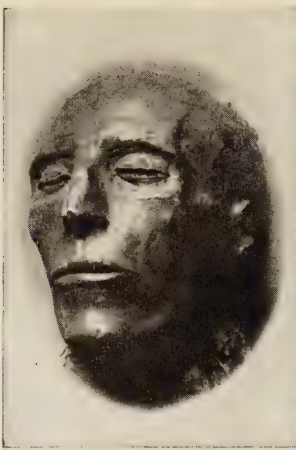
The wrapping of mummies was carried out with the minutest care, and was an art in itself, especially when we realise that all these interwoven bandagings were kept in place without the aid of fastenings or adhesive material of any kind whatsoever.



From a drawing by F. Matania.

PREPARING THE MUMMY OF A PHARAOH FOR SEPULTURE IN THE VALLEY OF THE TOMBS

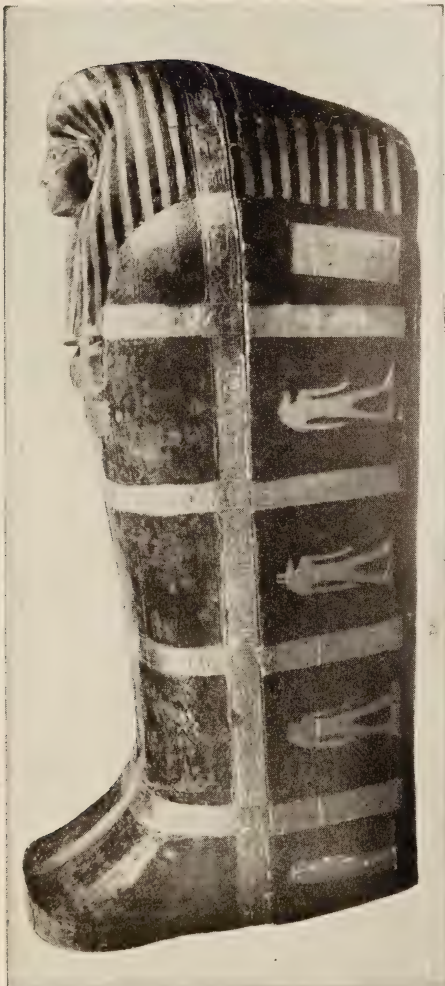
When a king died, Professor Petrie has told us, the word went round that a falcon had flown to heaven; the palace was closed; parties roamed the streets chanting dirges; and the mighty one lay helpless in the embalmers' hands. After it had lain for seventy days in a bath of natron, and the necessary rites had been performed, the body was swathed in linen bands moistened with an aromatic gum and wound skillfully to the form; jewels and amulets were inserted here and there in the wrappings. The hair was cut off and concealed in the bandages to prevent its misuse for magical incantations. After the mummy had been swathed four or five times a mask resembling the features of the dead man was placed on the covered face.



Museum of Egyptian Antiquities, Cairo.

CLOSER VIEWS OF SETI IN THE AUSTERITY OF DEATH

Death cannot blur the masterful delineations of character in the features of Seti I., and we can well understand how under such kings the power of Egypt reached its zenith in the nineteenth dynasty. He made a magnificent tomb in the Valley of the Tombs of the Kings at Thebes; but his body was found in the cache at Deir el-Bahri, where it had been hidden for security.



Museum of Egyptian Antiquities, Cairo.

RICHLY DECORATED COFFINS CONTAINED IN THE SARCOPHAGUS OF IUAA

All the coffins are mummiform in shape. 1. Outer coffin, covered with pitch and ornamented in stucco-gilt; face and hands gilt; hair represented by black and gold stripes; eyebrows and lashes of dark blue glass, iris of black obsidian, and whites of white marble; broad necklace of gold. 2. Second coffin, coated with stucco and gold and silver foil and richly inlaid with glass of various colours; face of gilt; hands of gold foil; below the vulture, with outstretched wings, the goddess Nut is represented standing. 3. Inner coffin, specially notable for the exquisite modelling of the face; here, also, below the vulture with outstretched wings, is a standing figure of Nut in low-relief.

mummification is a very strange and fantastic procedure, and that the attainment of any success in the practice involved many years of gruesome experimentation. It took the Egyptians two millennia to attain any measure of real success in the art, even though in Egypt conditions are perhaps more favourable than in any other land. Hence when we find scattered throughout the world arbitrary methods of preserving the dead which reproduce the procedures devised by the Egyptians only after centuries of persistent effort it is altogether unreasonable to pretend that the people in outlying parts of the world who practise these distinctively Egyptian devices did not acquire them either directly or indirectly from Egypt.

Thus another wonder of the study of mummies is the irrefutable demonstration they afford of the diffusion of elements of ancient civilisation from Egypt to various localities in Africa and Europe, Asia and Oceania, until early in the Christian era they reached Peru and Central America, as well as the North-West Coast.

But before considering this world-wide spread of the custom of embalming let us consider how this wonderful procedure came to be invented in Egypt, and how it underwent an unbroken series of changes in technique during the thirty-five (or perhaps forty) centuries of its practice there.

In discussing problems relating to ancient Egypt it is not an easy matter for most people to form any precise conception of the remoteness of the period in time with which we have to deal. The mere enumeration of thousands of years fails to convey any definite idea to those who are accustomed to reckon things in the past by events rather than by the use of arithmetical figures.

Most of us have been taught to look upon the time of the Norman Conquest as a very remote period, and to regard the Roman invasion of Britain as having occurred almost at the dawn of history. Yet at the time of Julius Cæsar the practices which we are about to study had reached in Egypt almost the last stage of their decadence after having enjoyed—to our certain knowledge—a vogue for a span of time considerably longer than, perhaps nearly twice as long as, that which separates Cæsar's time from ours. This carries us back to a period com-

pared with which that of Homer seems quite recent. It was many centuries earlier than the time when the Pentateuch was put into writing or before "Joseph commanded his servants the physicians to embalm his father Jacob." But to get any clear idea of the factors that brought about the invention of embalming we have to add to this long span yet another series of years as great as that which separates the date of William the Conqueror's landing at Hastings from our time!

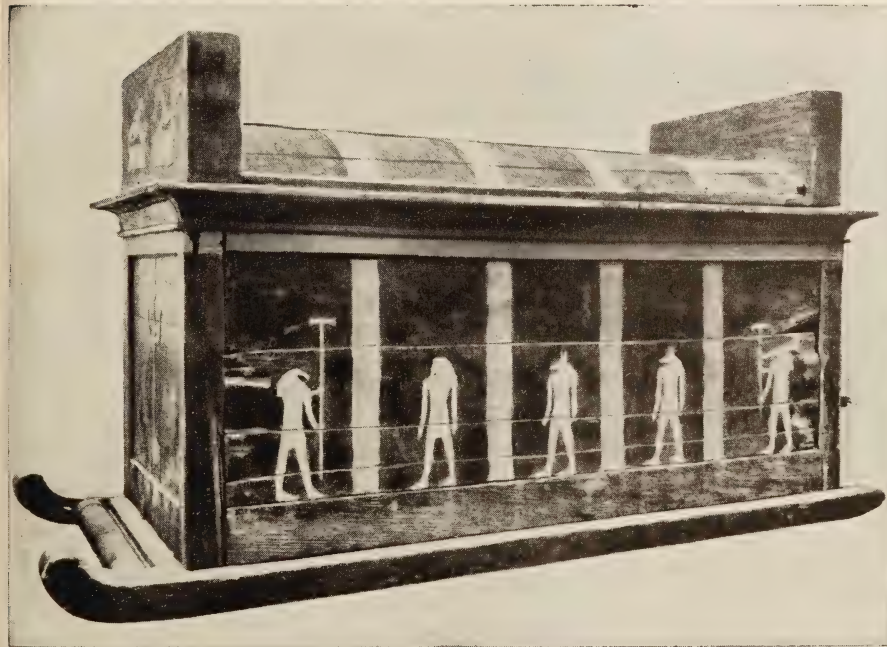
Even at that remote period, roughly sixty centuries ago, the Egyptians were building up the earliest real civilisation. They had devised the practice of agriculture and the methods of irrigation. They had domesticated cattle and used milk as food with the barley they cultivated. They had learned to fashion pottery of a simple grace and elegance of form that has never been surpassed, and they had attained a remarkable degree of skill in working flint and the hardest stoneware in a manner that bears ample testimony to their technical skill and to their possession of the moral qualities of patience and restraint. They were already acquainted with gold, and had conferred upon the relatively useless yellow metal the arbitrary value that has made it so potent an instrument of good and evil ever since. They knew, also, how to weave linen.

Custom had already imposed on this population a regular and orderly mode of burying their dead in definite cemeteries, in a position and with a geographical orientation strictly defined by convention, along with a set of objects which the deceased had treasured in this life or his relations believed he might need in the next. It was this custom of burying valuables with their dead which led indirectly to the acquisition of the knowledge which suggested the idea and demonstrated the possibility of the artificial preservation which we call mummification. The earliest Egyptians at present known to us had already commenced those nefarious practices which have been continued by their successors ever since then—I refer to the plundering of the graves of their contemporaries, and, in later times, of their predecessors also. When a powerful Pharaoh like Rameses the Great, whose acts were accomplished in the glare of the publicity that illumines a throne, dared to mutilate his own father's monuments, merely to attain a greater fame or notoriety, and another, Akhnaton,



THOTHMES IV. AND A GRUESOMELY LIFELIKE QUEEN

Left, mummy of a queen of the twenty-second dynasty; right, mummy of Thothmes IV., a Pharaoh of the eighteenth dynasty. The mummy of the queen (c. 900 B.C.) shows how practices altered with time, as artificial eyes have been inserted and the contours of the face filled out by packing with mud beneath the skin.



Museum of Egyptian Antiquities, Cairo.

SARCOPHAGUS OF IUAA, FATHER OF QUEEN TIYI

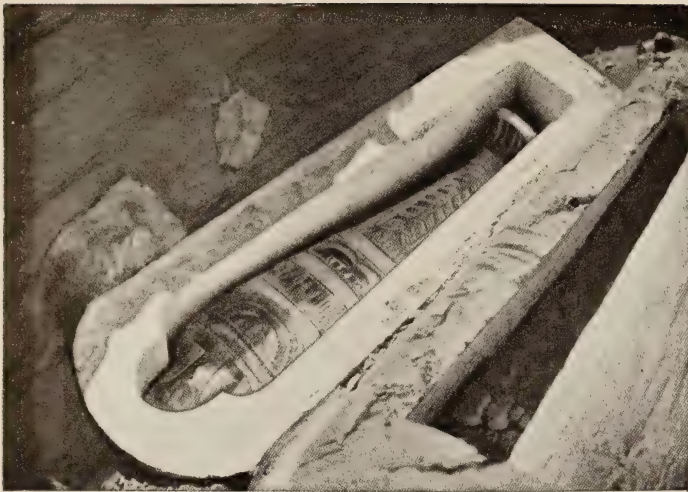
Made of a coarse-grained wood, covered with pitch, and ornamented with figures and hieroglyphs in stucco-gilt, the sarcophagus contained three separate nested coffins. The inscriptions record Iuaa's various titles and include prayers to the gods of the West on behalf of the deceased, who was husband of Tuaa and father of Tiyi, the queen of Amenhotep III.



Museum of Egyptian Antiquities, Cairo.

MUMMY OF SETI I.

The head of Seti I., second Pharaoh of the nineteenth dynasty, is wonderfully preserved, but the rest of the body has suffered grievously from the depredations of ancient tomb-robbers who tore the wrappings in search of loot.



From "*The Cemeteries of Abydos II.*," by T. Eric Peet.

MUMMIFORM COFFIN FOUND AT ABYDOS

In Abydos, an ancient centre of Osiris worship, it was the dearest wish of every pious Egyptian to be buried, or even to have his mummy placed temporarily. The necropolis vaults and their contents have suffered much from robber hands, but the mummy shown above, apparently of the Ptolemaic period, was found intact in its mummiform coffin.



Museum of Egyptian Antiquities, Cairo.

MUMMY OF IUAA: PROFILE AND FULL FACE

It was found in the tomb of Iuaa and Tuaa, in the Valley of the Tombs of the Kings, in 1905. The linen mummy straps were covered lavishly with stucco and gilt ornamentation.



Museum of Egyptian Antiquities, Cairo.

MUMMIFIED JOINT IN A WOODEN CASE

Joints mummified and in wooden cases were found by Mr. Theodore M. Davis, when in 1905 he discovered the tomb of Iuaa, and Tuaa on the west side of the Nile at Thebes. On this occasion Mr. Davis was accompanied by Mr. Arthur Weigall and the late Sir Gaston Maspero.



From "*Roman Portraits and Memphis (IV.)*," by W. M. Flinders Petrie.

FOOT-CASE OF AN EGYPTIAN MUMMY

The feet of the Egyptian mummy, like the head, were frequently provided with a case on which they were modelled as though exposed. The modelling of the feet here illustrated (from a cemetery of the Græco-Roman age at Hawara) is of peculiar accuracy and delicacy and shows the Egyptian method of tying sandals.



By courtesy of the Metropolitan Museum of Art, New York.

MUMMIFORM COFFINS HIDDEN FOR MORE THAN 2,000 YEARS

Two "anthropoid," or mummiform coffins containing mummies of the twenty-fifth dynasty (712-663 B.C.), discovered near Deir el-Bahri, in a rock-cut tomb where they had been hidden so successfully that they were only revealed by the modern excavator seeking all things likely to throw light on the life and customs of the distant past.



MUMMY OF AMENHOTEP II., WHO DIED ABOUT 1420 B.C.

When the tomb of Amenhotep II. was discovered in 1898 by M. Loret in the Valley of the Kings, eleven royal mummies were found. Ten of these were removed to the museum at Cairo, but that of Amenhotep II. was left in its stone sarcophagus, where it still lies in state beneath the glow of an electric lamp. In 1901, despite precautions, the tomb was forced by modern representatives of the ancient tomb-robbers, who cut through the wrappings of the mummy in quest of royal treasure.

desecrated even his royal father's tomb out of spite against his religious professions, or, rather, the better to emphasise his devotion to a new religion, is it to be wondered at that the common people should have satisfied their more insistent desires and obtained useful and valuable objects from the graves of their contemporaries, when they could do so in secrecy and without running any of the risks that attended the royal vandalism?

However strong a restraining influence their religious beliefs may have exercised against the committal of such acts of desecration, we have the most positive and conclusive evidence that the temptation of the immediate gains that might accrue from grave-plundering often proved too strong for these people; and at every period in their history, from the most remote times until the present day, the inhabitants of Egypt and Nubia freely indulged in such easy methods of enriching themselves, in defiance of their belief in the sanctity of the remains of their dead.

Thus it happens that a considerable proportion of graves, even of the earliest known predynastic period, are found to have been desecrated and their contents damaged to a greater or less extent; and in many of these there is unmistakable evidence to show that the robberies were committed by contemporaries of the deceased—that is, by people who knew whether the graves contained the bodies of rich or poor, men or women.

This practice of rifling graves had very important consequences. For it made even the earliest Egyptians aware of the fact that the bodies of their dead did not always suffer corruption when placed in the ground, but were often preserved in an imperishable form. The hot, dry sands desiccated the bodies in many cases so that the skin and flesh, the hair, and even the eyes, were completely preserved. The discovery of this phenomenon, no doubt, set these people wondering whether the survival of the bodies of the dead did not also mean a prolongation of their existence. Perhaps it prompted them to provide them with food and raiment and all the other things needed in their daily "life" and enjoyment.

As the belief in the reality of this prolongation of existence developed, and ampler supplies of food and equipment were made, the tomb had to be made larger until eventually it be-

came a suite of large rooms in one of which the corpse was lodged in a coffin of wood, stone, or pottery. But it soon came to be realised that these ampler provisions for the welfare of the dead defeated the very object which had prompted them. For in the large tombs the body was no longer preserved as it often was when placed in contact with the hot, dry sand in the simple grave. But the importance of such preservation had become so insistent that (somewhere about the time of the first dynasty, 3400 B. C.) attempts were made artificially to preserve the body, using common salt, perhaps also crude natron, and various resins for the purpose. The trees that provided these resins which could preserve the body, and so, as the Egyptians believed, prolong existence, were regarded as life-giving, i. e., divine, and identified with the god Osiris, the prolonger of existence.

The fundamental aim of mummification in Egypt throughout more than thirty centuries of its practice was to secure for the dead the same fate as tradition had accorded Osiris, and to enable them to be identified with the god who had attained the boon of immortality. This conception shaped the whole ritual of embalmment and the funerary ceremonies.

The earliest actual mummy known to exist at the present time is in the Museum of the Royal College of Surgeons, in Lincoln's Inn Fields. It was found in 1892 near the Pyramid of Medum, by Professor Flinders Petrie, who assigns it to the time of Sneferu (third or fourth dynasty). Although the identity of the tomb from which it came is not quite certain, and there is some doubt as to the time in which it was embalmed, it can be referred with certainty to the Pyramid Age. The only question concerning its age that is still in dispute is whether it should be assigned to the period of the fourth dynasty (2900 to 2750 B. C.), when the Great Pyramids were built, or to the fifth (2750 to 2625 B. C.). Judging from the technical procedures adopted in wrapping and treating the body (in comparison with the data collected by Professors George A. Reisner and Junker at the necropolis of the Gizeh Pyramids), it is more probable that it belongs to the time of the fifth dynasty.

But although the Medum specimen is the earliest actual mummy, definite indications of attempts at mummification have



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ANTHROPOID CASKETS TO HOLD THE ANCIENT EGYPTIAN DEAD

Left, mummy-case of a priestess of Ammon-Ra, about 1600 B.C.; right, inner coffin of Ankh-f-en-Khensu, about 1200 B.C. (Thebes).

been found (the specimen brought to light by Mr. J. E. Quibell, at Sakkara, in December, 1911, is now in the Museum of the Royal College of Surgeons, London) as early as the second dynasty (c. 3000 B. C.), and on theoretical grounds it is probable that experiments in embalming were made at the time of the first dynasty (3400 B. C.), or even earlier.

In the Sakkara specimen the body was swathed in a large series of bandages, which were so moulded as to retain the shape, particular attention being devoted to the restoration of the face and head. Although it would be erroneous to call this mass of linen and the skeleton enclosed within it a mummy, the corrosion of the innermost bandages (those originally in contact with the skin) indicates that some attempt had probably been made to embalm the body. But in the Medum specimen, which is actually a mummy, the superficial bandages are impregnated with a resinous paste, and the surface is skilfully modelled to reproduce the form of the corpse, special attention being given to the face, the details of the eyes and moustache being brought out by the use of green and brown paint. Inside this resinous carapace the body itself is well preserved. Although this specimen is unique Professor Junker found a series of bodies of the same age that had been subjected to somewhat analogous processes, stucco plaster being used instead of resinous paste. Sometimes the whole body was encased in this material, in other cases the head only was so enclosed.

The chief interest of these processes is the evidence they afford of the two aims of embalming: (a) to preserve the body, and (b) to make a lasting portrait of the deceased. At first the attempt was made to convert the wrapped mummy itself into a portrait statue, but when this was found to be impracticable a statue was made of stone, wood, or plaster (apart from the body), and painted to reproduce the lifelike appearance of the deceased. The ideas that inspired this new art are revealed by the words used by the Egyptians themselves to define their achievement. The sculptor was called "the vivifier," and the word for "to carve" was "to give birth," "to create," "to give life." The artist was, in fact, believed to have made "a living image," a reproduction of the deceased that was so lifelike as to ensure the continuation of his existence. It gave him a fresh

lease of life, a new birth; it was, in very truth, a recreation of his existence.

The thousand years that followed the embalming of Ranefer have left us singularly little evidence of the practice of mummification. Several mummies of the Middle Kingdom (c. 2000 B. C.) have been found by Messrs. Garstang (at Benihasan), Quibell (at Sakkara), Lythgoe, Mace, and Winlock (at Lisht and Thebes). Most of these were in such a fragile condition that they could not be moved.

In the ruined pyramid of King Mentuhotep II., at Deir el-Bahri (Thebes), the mummies of six of the wives or concubines of this Pharaoh of the eleventh dynasty and a child have been found by officials of the Cairo Museum and by Professor Naville, Dr. H. R. Hall, and Mr. Herbert Winlock (working respectively under the auspices of the Egypt Exploration Fund, the British Museum, and the Metropolitan Museum of New York). These are the earliest royal mummies so far recovered, having been embalmed about 2050 B. C.

In addition to this interesting fact two other circumstances render this series of mummies unique. The method of embalming revealed in the bodies of these queens differs from that of all other Egyptian mummies, although it was described more than sixteen centuries later by the Greek traveller Herodotus, and again later still by Diodorus, the Sicilian. Another interesting feature of these mummies is the fact that two were tattooed, and afford not only the earliest examples of this strange practice, but also the only ones that have come down from ancient Egypt.

Egyptian embalming attained its greatest success in the period represented by the eighteenth, nineteenth, twentieth, and twenty-first dynasties, from 1580 B. C. to 945 B. C. The expulsion of the Hyksos rulers was followed by the conquest of Palestine and Syria. From these countries, as well as from the Sudan, East Africa, and the incense country in Southern Arabia, to which the Egyptian sovereigns of the eighteenth and the succeeding dynasties sent expeditions, abundant supplies of resins, balsams, and wood were obtained which enabled the embalmers to carry the practice of their art to a higher pitch of success than was ever achieved in Egypt before or after this



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THE CONVENTION OF THESE COFFINS LASTED TO THE LATEST TIMES

Left, coffin of Hu-en-Amen from Thebes, about 800 B.C.; right, coffin of Artemidorus, a Greek, from the Fayyum, about A.D. 200.

period. During the eighteenth dynasty especially the technique of mummification revealed rapid progress, and the mummies of the four Thothmes, Amenhotep II., Iuaa, and Tuaa, the parents of Queen Tiyi, are so well preserved that looking upon them we can form a very clear picture of these famous rulers as they were when alive. But in the nineteenth dynasty (1350-1205 B. C.) the famous Pharaohs Seti I., Rameses II., and Merenptah were even more successfully embalmed, for their mummies now reveal them to us in all their strength and dignity, as the weakness of many of their successors in the later part of the nineteenth and the twentieth dynasties is equally demonstrated.

Amid the disorganisation of the closing years of the twentieth dynasty the weakness of the government left the royal necropolis in the Bibân-el-Mulûk at the mercy of grave-robbers. Hidden away in the recesses of the desolate Valley of the Tombs of the Kings was the vastest collection of gold and precious jewelry and furniture that was ever, perhaps, accumulated in one place until the United States of America acquired the world's gold. The recent discovery of the tomb of Tutankhamen has given us some idea of the lavishness with which royal tombs were equipped; and if this youthful nonentity could command such vast wealth at a time when the State was impoverished, our imagination fails to picture what must have been put into the tombs of such powerful emperors as Thothmes III., Amenhotep III., Seti I., and Rameses the Great, who could command the resources of the whole civilised world of their time.

The temptation of this vast accumulation of wealth hidden away in a deserted ravine led to the inevitable result when the civil power of Egypt became weakened in the twentieth dynasty, and robbery on a vast scale took place. Practically every royal tomb in the valley, with the single remarkable exception of Tutankhamen's, was not merely rifled but despoiled of all its gold and valuables. But before this wholesale plundering took place stealing on a smaller scale had been taking place. The men whose business it was to construct and furnish these rock-cut tombs had opportunities for rifling other tombs in the neighbourhood. Many records have been preserved from ancient times relating to the trials of men suspected of tomb-robbing in the Bibân-el-Mulûk, and in some cases giving the confessions of the guilty

men. But insufficient food and unhealthy working conditions often produced strikes among the necropolis workers, and no doubt such industrial disturbances were an important factor in impelling the strikers to plunder tombs. We have records of such strikes in the twenty-ninth year of Rameses III. (1164 B.C.) and in the reign of Rameses IX. (about 1130 B.C.). In the "Asiatic Review" of April, 1923, Mr. Warren R. Dawson has collected all the available data with reference to these strikes and robberies in the Valley of the Tombs of the Kings—and a very interesting story it is.

When order was once more restored in Egypt attempts were made to repair the damaged mummies of the famous Pharaohs, and after many vicissitudes and, in some cases, a couple of centuries of repeated moving from one hiding-place to another, more than thirty of the kings' and queens' mummies found a resting-place for twenty-eight centuries in the famous cache at Deir-el-Bahri (where they were found in 1881), nine others in the tomb of Amenhotep II. (where they were found in 1898), and others elsewhere. The records of these events and the inspectors' reports are found inscribed upon the rough coffins into which some of these rifled mummies of dead royalty were placed for greater protection.

One of the immediate effects of the labours of the priests of the twentieth and twenty-first dynasties in restoring these mummies was a profound modification of the technical processes of embalming. Realising how imperfectly many of these mummies retained any semblance to a living man or woman, the embalmer of the twenty-first dynasty set to work to devise new methods to make the mummies more lifelike. Materials, such as linen or mud, were introduced under the skin, and the whole body modelled so as to correct the shrunken and distorted form so often seen in the earlier mummies. Artificial eyes were inserted, and special measures (the use of wax plates) were taken to protect the nose, mouth, ears, and eyes from distortion. Finally, the skin was painted. But having done this the embalmer imagined that he had at last accomplished the aim after which his predecessors had been persistently striving for more than twenty centuries. He had made a mummy which was both the actual body of the deceased as well as his portrait statue. Hence they at-



From a statue in the collection of the late Earl of Carnarvon, specially coloured for "Wonders of the Past."

BEAUTY DESTINED FOR THE ETERNAL DARKNESS OF THE EGYPTIAN TOMB

This broken statue of some high-born lady illustrates one of the curious funerary practices of the ancient Egyptians in order to guard against the possible corruption of the mummy, which they took such elaborate pains to preserve, they caused exact likenesses of their dead to be made, and then, by magic ceremonies, "brought them to life." The "ka," or double, of the dead man thereby had a duplicate body by means of which it could enjoy the funerary offerings. In conclusion, it is hard not to digress on the lovely workmanship of this bust, it is from the fourth dynasty, that golden age of Egyptian art, and makes an excellent supplementary illustration to the article in this work on "The Exquisite Artistry of Ancient Egypt."

tempted to make it as complete a restoration of the whole man or woman as it was possible to do.

From the earliest times it was the custom to remove from the body most of its organs, so as to facilitate its successful preservation. But the heart and kidneys were so important that the embalmer aimed at leaving them in situ in the body. Of the organs that were removed four were regarded as specially important, and after being carefully embalmed they were placed in four jars (usually called canopic), which were put in the tomb with the mummy, sometimes in a special case. These four sets of organs—liver, lungs, stomach, and intestines, respectively—were placed under the protection of the four sons of the god Horus, and after the eighteenth dynasty the four jars were distinguished by differently-modelled lids—human-headed (liver), baboon-headed (lungs), jackal-headed (stomach), and hawk-headed (intestines). But in the twenty-first dynasty, when the effort was made to render the mummy complete, it became the custom to restore these preserved organs to the body. A model of the appropriate son of Horus was made of wax (or mud or pottery) and wrapped up with the organ committed to its care so as to make a neat parcel swathed in linen bandages, which was then replaced inside the body along with the other parcels packed in sawdust.

The technique of the elaborate process of restoring the mummy's form became so complex and difficult that disastrous failures often occurred. This led to a rapid degradation of the art of embalming. But as interest in the preservation of the body itself diminished, more and more attention was devoted to the decoration of the surface of the wrapped mummy. Hence in the later phases, and especially during the Greek and Roman periods, gaudily-decorated mummies and mummy-cases became common.

Even when Christianity was introduced into Egypt, and the early bishops of the Church forbade the practice of mummifying the dead, people refused to abandon a practice to which their ancestors had been habituated for more than thirty centuries. But if the exhortations of such devout bishops as St. Anthony the Great failed to put a stop to embalming, the more vigorous methods of the followers of Islam did succeed after

the Arab conquest of Egypt in destroying the most distinctive invention of Egyptian civilisation.

Though the practice of mummification was thus brought to an end in Egypt, it has survived elsewhere. In early times the Egyptian custom was adopted in Palestine and Syria, and at least as early as the sixth century B. C. along the whole north coast of Africa. But it also was adopted in Nubia and the Sudan, in Uganda, and the basins of the Niger and the Congo. Later on it spread farther afield in Africa, for example to the Zimbabwe region of Rhodesia, and also the Canary Islands and Madagascar.

But with the wider diffusion of culture in later centuries it spread to Europe and India. From the latter and Ceylon it spread to Burma, the Malay Archipelago and Indo-China, to New Guinea, Australia, and Melanesia, and then in the early centuries of the Christian era it reached the islands of Polynesia and Peru and Central America. At the same time it was being diffused around the eastern littoral of Asia along the Aleutian islands to the north-west coast of America.

Thus the practice of embalming affords one of the most unmistakable tokens of the influence of Egypt in devising elements of civilisation which in time were diffused throughout the world.

TEMPLES OF THE GODS. X
THE TEMPLES OF EDFU AND DENDERA

BY MARGARET A. MURRAY

THE TEMPLES OF EDFU AND DENDERA

By MARGARET A. MURRAY

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THIS contribution is one of several dealing with the remarkable temple remains of ancient Egypt, complementing the articles on Thebes and Philæ. Edfu and Dendera (or Denderah) are both situated on the Nile, the one south and the other north of Thebes. See colour map facing page 150.—EDITOR.

THE great Temple of Edfu, the most perfect temple now standing in Egypt, was built in honour of the falcon-god, Horus the Conqueror. The site was probably sacred from the earliest dynastic times, but the present Ptolemaic temple covers all traces of earlier buildings.

The huge pylon is scored with perpendicular recesses to receive the slender flagstaffs with fluttering pennons, which we now call "Venetian masts," for the Venetians borrowed from the Egyptians the custom of placing in front of their places of worship staves with small gaily-coloured flags. The forecourt is surrounded on three sides with a colonnade, and was probably the place where worshippers made their offerings to the falcon-god at certain hours of the day.

The pillared halls, which are passed on the way to the shrine, were once brilliantly painted, but now the colours are dim, even if they have not disappeared entirely. In the outer of these two halls the worshipper was purified with water before he was permitted to advance farther into the temple. The lay pilgrim could not penetrate nearer to the shrine than the first vestibule, for into the second vestibule and the holy of holies only the chief priests might venture. In this second vestibule human fertility

was worshipped under the form of the god Min of Koptos, and the goddess Hathor of Dendera.

The sanctuary contains the actual shrine in which the figure of the falcon-god was placed; the pivot-holes, in which swung the double doors, can still be seen in the polished grey granite. As at Dendera, the holy place is surrounded by an ambulatory with chambers opening off it, and here the names of the rooms are poetical: the Room of the Spread Wings, the Room of the Throne of the Sun, the Room of the Victor. In the last-named room there still stands an altar known as the Great Throne of the Dispenser of the Rays of the Sun.

The Temple of Edfu differs from all the other temples by having a second ambulatory which surrounds the whole of the sacred halls and chambers north of the great forecourt. The sculptures on the west wall of the ambulatory present the story of the battles between Horus and his divine enemy, Set. As the temple is dedicated to the victorious Horus, he is naturally represented in the most spirited manner, while the enemy appears under the form of a hippopotamus or pig. The inscriptions give the legend in great detail, and the song of the king's daughters and the women of Edfu and Pé, barbaric though it be, is unusually fine and stirring.

As in all other Egyptian temples, the roof is flat, with stairways leading up to it. The roof was the scene of the great New Year procession, which took place at the time of High Nile, in September. The king and queen were conventionally supposed to take the principal parts in the New Year procession in every temple of their kingdom, and it seems probable that they succeeded in going to each of the great temples in turn. At Edfu the king acted the part of Horus, while the queen represented Isis. There seems little doubt that, in early times, the representative of Set was actually slain during the ceremony; but in the Ptolemaic sculptures the figure of Set is apparently only an effigy.

The temple walls and pillars are covered with sculpture in which Hathor of Dendera is very conspicuous. Horus, though rightly a falcon, has a special form at Edfu, where he appears as a winged disk, a combination of the sun with a falcon's wings outspread on each side.



Photo from W. M. Flinders Petrie.

EDFU'S SCULPTURED PYLON

Conspicuous on both towers is the figure of Ptolemy XIII. (Auletes, father of Cleopatra), smiting his foes before Horus and Hathor.



CENTRAL GATEWAY OF THE TEMPLE OF HORUS

Through this portal one can see across the court to the Vestibule. The long recesses in the external walls were for flagstaves. In the upper photo is seen the granite falcon.



Photo by Donald McLeish.

CORNER OF THE BEAUTIFUL COURT OF THE TEMPLE OF HORUS AT EDFU

On the right rises the western tower of the great pylon, the small apertures in which serve to admit light and air to the chambers and staircases within. Two staircases are connected by a passage above the central portal. The spacious Court of Offerings, in which once stood the great altar, has at the south end and on each side a covered colonnade of thirty-two columns, with symbolical designs on the shafts and finely carved floral capitals. At the north end is the Vestibule.



AMBULATORY AND GIRDLE-WALL OF THE TEMPLE OF HORUS AT EDFU

From the outer south-west corner of the Festival Hall to its outer south-east corner, encircling the temple proper, is an ambulatory part of which is seen in this photograph, which also shows how the inner side of the girdle-wall and the outer walls of the temple were embellished with sculptures. The projection on the left of the photo is one of the water-spouts. A subterranean staircase leads from the eastern part of the inner passage to an ancient well outside the temple.



Photo by Donald McLeish.

CLEOPATRA REPRESENTED SACRIFICING TO THE GODS AT DENDERA

Among the many reliefs on the outer walls of the Temple of Hathor at Dendera, examples of later Egyptian art, are these figures on the south wall, showing Cleopatra and Julius Cæsar sacrificing to the gods, the small figure between them representing their son Cæsarion. The general plan of the temple, which dates from between the first century B.C. and A.D. 42, is similar to that of the Temple of Horus at Edfu, but the pylon is isolated.

At Dendera the plan of an Egyptian temple can be followed very clearly. To the Egyptian, the deity was simply a superior kind of human being, with all human desires and needs. Therefore, the temple was built after the fashion of a very splendid Egyptian house. It was enclosed with a high wall to ensure privacy; the dwelling-place, or temple, was in the centre of the enclosure, and like the dwelling-houses, coolness and airiness were the first requisites, consequently the outer walls are without windows, the rooms and halls are lofty, and the roof is flat with sometimes little kiosks. In the garden which surrounded a Pharaoh's palace or a noble's mansion was always a pond full of lotuses and fish; and here the master of the garden walked or sat in the cool of the evening. Near the dwelling-house, and sometimes actually part of it, were the store-houses and the dwelling-quarters of the servants.

Keeping this idea in mind, the great Temple of Dendera is easily understood. Entering at the main gateway which pierces the enclosing wall, the temple is seen across an open space. The great columns of the entrance-hall are very imposing; those in front in brilliant light, those within fading into the darkness of the temple. The heavy capitals are in the form of heads of Hathor, the goddess to whom the temple is dedicated. She is represented as a woman with heifer's ears and with heavy locks of hair falling on each side of the face to the breast. The faces have been badly damaged by Christian and Moslem fanatics to whom the "idols of the heathen" would be anathema. The colouring of the pillars and the walls still remains, and though time has dulled its brilliance to some extent, it still recalls the ancient glory which once gleamed from the temple walls.

On each side of the main axis of the temple, which leads through the columnar hall and vestibules to the shrine itself, are chambers which are known by the names of the objects stored there; these often have a poetic sound, as the Silver Room, the Incense Room, the Harvest Room. An ambulatory goes all round the shrine, and from it other rooms open; these, however, were often chapels for religious purposes, and were called the Flame Room, the Resurrection Room, the Purification Room. The laity were probably not admitted to the inner part of the temple, but remained in the outer vestibule when the doors were

opened at the great festivals, and the image of the goddess was revealed to her worshippers.

In one of the side chapels, which, judging by its position, was consecrated to the celebration of the mysteries, is a representation of the sky-goddess, Nut, who at Dendera was considered as only another form of Hathor. She is in the conventional attitude of Nut, stooping down with hands touching the earth, her body thus representing the arch of heaven. She is here a typification of the life-force of the world, her robe symbolising water, and the sun upon her body sending out its rays, for life requires both heat and moisture.

On the flat roof of the temple is a shrine dedicated to Osiris. On the walls of one of the chambers is the celebrated Ritual of Dendera; this gives the details of the ceremonies which were performed in the chief centres of the Osiris-cult, and is therefore of the utmost importance for all students of the ancient Egyptian religion. In another of the chambers was the equally celebrated Zodiac of Dendera, which was removed by the French and is now in the Bibliothèque Nationale at Paris; a plaster cast replaces the original in the temple. As part of the "mysteries" of Hathor was her identification with the sky-goddess Nut, astronomical signs and symbols play a large part in the decoration of all parts of the temple.

Under the temple itself are twelve chambers, or crypts, some of which lie below the others. Underground chambers are known in other temples, and were probably for the celebration of the mysteries. The outer walls of the temple are sculptured with scenes of worship, of which the most important is the portrait of Cleopatra with her son Cæsarion. At the north-west of the temple is the Birth House, which has been recently cleared by the Department of Antiquities. The sculptures chronicle the divine birth of Nectanebo, whose father is here the god Ammon of Thebes.

The Sacred Lake belonging to the temple has also been recently excavated. It is the most perfect specimen known; it is rectangular, and at each corner is a stone stairway descending to the bottom. Part of the ceremonies in the ritual of any deity consisted in carrying the image in a boat on the water, and for this a lake within the sacred precincts was necessary, just as a



Photo by Gaddis & Seif, Luxor.

HATHOR-HEADED PILLARS IN THE HALL OF PROCESSIONS AT DENDERA

Situated between the Great Vestibule and the Sanctuary of the Temple of Hathor at Dendera, the Hall of Processions has its roof supported by six Hathor-headed pillars, the base and two lower drums of each being of granite and the upper parts of sandstone. Pillars and walls once glowed with colour. On the ceiling of the Great Vestibule, called also the Great Hall of Nut, who symbolised the sky, was a zodiac, now in Paris and replaced by a plaster cast, in which the sign Cancer is represented by a scarab.

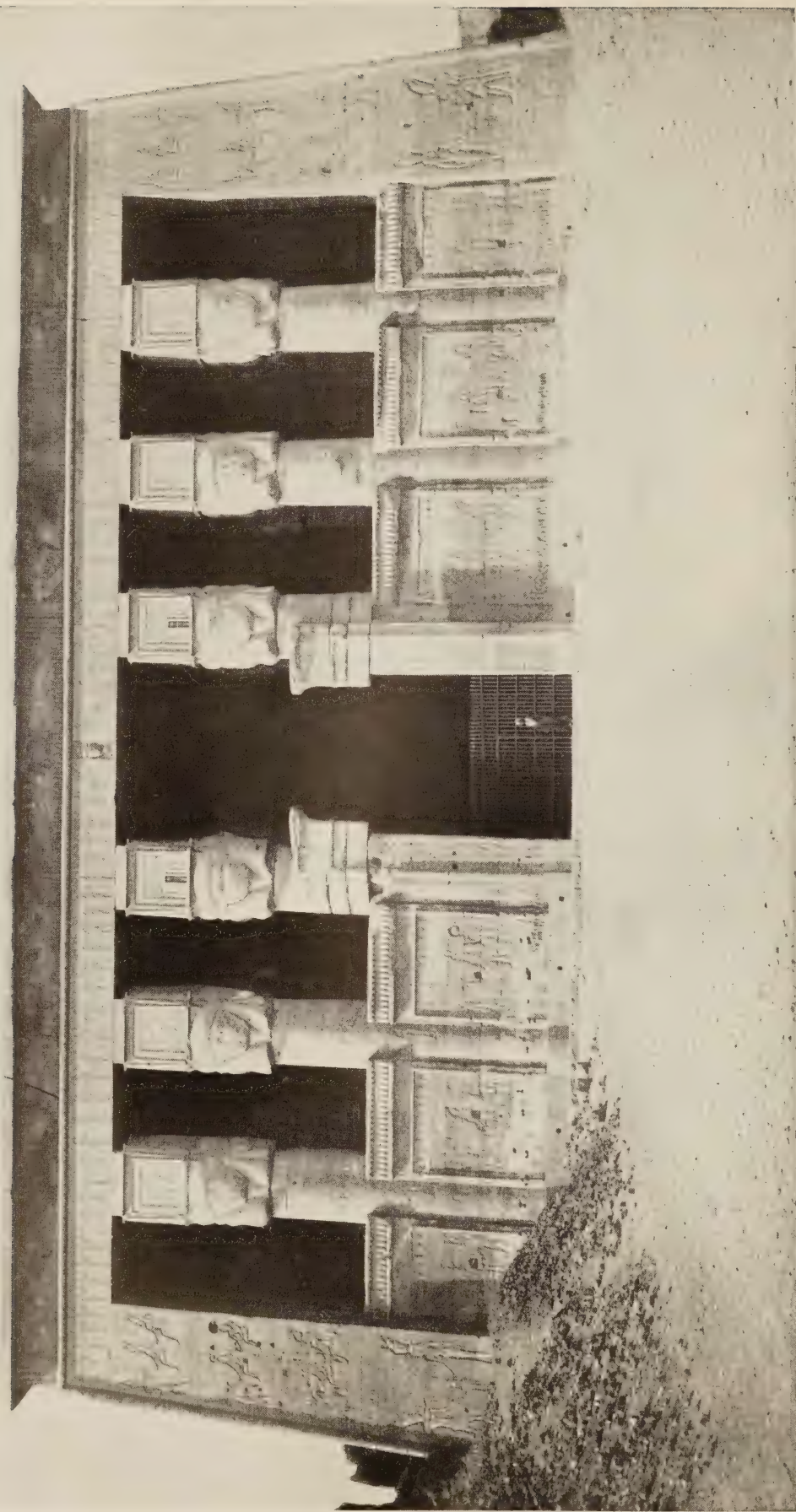


Photo by Gaddis & Seif, Luxor.

MAGNIFICENT FAÇADE OF THE GREAT VESTIBULE OF THE TEMPLE OF HATHOR AT DENDERA

The Great Vestibule is a hypostyle hall, the roof of which is supported by sistrum-columns with Hathor heads. Between the six columns in the first line, three on each side of the entrance, stretches a high stone screen surmounted by the sacred uraei. The reliefs on the stone screen represent the ceremonial entrance of royalty into the temple. The doorway is half the height of the columns, and above it, in the centre of the huge concave cornice, is a winged sun-disk. On the upper edge of the cornice is an inscription in Greek, of the time of Tiberius, setting forth details of the dedication of the building to "the great goddess Aphrodite [Hathor] and her fellow gods."



Photo by Donald McLeish.

PYLON OF THE TEMPLE OF HATHOR AT DENDERA—THEN AND NOW

Above is a photograph of the isolated stone pylon of the Temple of Hathor at Dendera as it is to-day. It bears the names of Domitian and Trajan. Top (left) from "*Le Description de l'Egypte*," a work issued under the patronage of Napoleon, is a reconstruction of the great gateway as it was conceived to have appeared on the occasion of the annual Hathor festival.



Photo by Frith.

THE TEMPLE OF HATHOR AT DENDERA RISING FROM THE DUST

Just as at Edfu, where until about 1864 all but the pylon of the Temple of Horus was buried under native mud huts and rubbish of centuries, so at Dendera the spade has recovered for us a fine example of Ptolemaic architecture. In the above photograph we see the pronaos or Great Vestibule of the building as it appeared when only half liberated from the débris that time and vandalism had heaped upon it. The camera in this case affords an interesting object-lesson in the work of the modern excavator.



Photo by Donald McLeish.

SENTINEL FALCON OF EDFU'S ANCIENT TEMPLE

Edfu is the modern Arabic name of the ancient Tbôt, which the Greeks named Apollinopolis Magna, after its chief deity, Horus, whom they identified with Apollo. Horus was often represented as a falcon, and is fabled to have achieved a great victory over Set, the Greek Typhon, at Edfu.



HATHOR COLUMN RESTORED

Restoration of one of the six great columns of the Hall of Processions. The brilliant colour that once gleamed from these pillars has been dimmed by time.



Photo by Gaddis & Seif, Luxor.

PILLARED VESTIBULE OF THE TEMPLE OF HORUS AT EDFU

Of dark granite, the large falcon-figure by the portal of the Vestibule once lay before the temple pylon. Within each side of the entrance is a small chamber; between the pillars the decorated screen is surmounted by a cornice of uraei. The ceiling of the Vestibule is covered with astronomical signs, and its eighteen supporting pillars, like the twelve of the Festival Hall beyond, have richly floreated capitals. Well preserved as is the temple, the figures on the walls have been greatly mutilated.



TEMPLE OF HORUS AT EDFU SEEN FROM THE EASTERN TOWER OF THE PYLON

Built between 237-57 B.C., dedicated to the sun-god Horus, whom the Greeks identified with Apollo, and cleared of the mud huts which once covered its roofs and terraces, and of the rubbish with which it was once filled, this temple is one of the most perfectly preserved of the beautiful shrines of the ancient world. The pylon (115 feet high by about 250 feet wide) and the girdle wall are unique. The length is about 450 feet. Beyond the pylon are the colonnaded Court of Offerings, Vestibule, Festival Hall, and Sanctuary.

Pharaoh or a nobleman also disported himself by floating among the water-lilies on his private pond.

Hathor, however, once a year, at the new moon of the month of Epiphi, made a longer voyage than on the Sacred Lake; her image was placed in the sacred barge and, escorted by crowds of other boats, was taken in state up the river to Edfu. Horus, the god of Edfu, in his state barge, met the procession of boats and accompanied Hathor to his temple. After a visit of some days Hathor returned in equal pomp to the seclusion of her own temple, where she remained till the time of her annual visit and gala festival recurred again the next year.

THE WONDER CITIES. VIII
THE SPLENDOURS OF ANCIENT
PERGAMUM

BY F. N. PRYCE, M.A.

THE SPLENDOURS OF ANCIENT PERGAMUM

BY F. N. PRYCE, M.A.

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FIFTY miles north of Smyrna the river Caïcos, most northerly of the five large streams which flow into the Ægean Sea from the central tableland of Asia Minor, winds through low-lying swamps into the Eleatic Gulf. The coastal plain ceases a dozen miles up-stream, and the river-bed becomes a fertile valley, enclosed by mountains on north and south; and ten miles farther up the valley expands into one of the most extensive and luxuriant basins of all that fertile land. Just where the basin begins to open, two torrents, rushing down from the northern hills to the main channel, isolate a ridge which rises abruptly at its northern extremity to a height of nearly a thousand feet, and slopes gently towards the southeast. At its foot nestles the modern town of Bergama, a flourishing and picturesque place with red-tiled roofs and whitewashed minarets rising out of the foliage. But the eye is held by the rocky crest which towers above, crowned with broken ruins of an older age. It is a princely site, dominating the whole countryside as though marked out by nature to be the seat of empire, and here in ancient time rose the proud city of Pergamum, or Pergamon, for a century and a half a royal capital, and for long afterwards one of the greatest centres of the trade and culture of the ancient world.

The story of Pergamum contrasts curiously with that of the other Greek cities which fringed the western coast of Asia Minor. Their history goes back into the dim beginnings of Greek civilisation, but it is mainly a history of subjection, some-

times to a Greek power across the sea, more often to the rulers of the highlands on their east. They never stood long independent in their own strength, nor were they at any time able to impose their will on the interior plateau. Pergamum is a parvenu city, which only appears in history when the others were long past their prime; and its kings derived their prestige and importance from the fact that they subdued the inhabitants of the uplands and extended their rule over the interior from the sea to the Taurus mountains.

In the days of its splendour, court poets invented for Pergamum a history as ancient and distinguished as was possessed by any of its neighbours; but this is manifest fiction, and practically nothing is known of the place until after the death of Alexander the Great, when it was a small hill-town on the top of the crest. The times were troublous. Alexander's generals were dividing up his empire and struggling for supremacy; and one of them, Lysimachos, having made himself king of Macedonia and Western Asia Minor, deposited his state-treasure in this hill-fortress in charge of a trusted officer, Philetairos. But Lysimachos proved a tyrant, and in 283 B. C. all his cities in Asia Minor revolted and transferred their allegiance to his rival, Seleucos of Syria. Two years later Seleucos was assassinated, and Philetairos, seizing the opportunity provided by the subsequent confusion, declared himself independent ruler of Pergamum, owing fealty to neither Macedonia nor Syria.

An unexpected catastrophe served to divert attention from this insubordination and from the existence of the obscure little state. In 278 B. C. a wandering horde of Gauls, or Galatians, poured out of northern Europe into Greece, spreading destruction and desolation everywhere. Soon afterwards three tribes of them crossed the Dardanelles into Asia Minor, where they became the terror of the local inhabitants, pillaging and sacking the whole land. By the first century of the Christian era, when S. Paul was writing his Epistle to the Galatians, they had settled down into respectable agriculturists, but on their first arrival they seem to have been the wildest of barbarians. In face of this peril and of their own dynastic discords, the Syrian Seleucids could for a long time make no serious effort to reconquer Pergamum, which for forty years under Philetairos and his



Kaiser Friedrich Museum, Berlin.

RECONSTRUCTION OF THE GREAT ALTAR OF ZEUS AT PERGAMUM

The magnificent Altar of Zeus built by Eumenes II. to the south of the Temple of Athene on the Acropolis was the glory and the crown of Pergamum. Its appearance is here reconstructed, with the exception of the frieze representing the Gigantomachia which surrounded the base of the structure; this is shown in its present damaged condition. The altar was dedicated to Attalos, who had become the city's hero after his defeat of the Gauls.



National Museum, Rome. Photo by Brogi.

GRIM REALISM OF THE PERGAMENE SCHOOL OF ART

The vanquished Gaul kills his wife and then himself. The group is spirited and excellent, but so violently emotional a subject would have been abhorrent to sculptors of the best Attic age. The defeat, by Attalos I. of Pergamum, of the terrible Gallic invaders of Asia Minor gave rise to many variations of this motif.



By permission of the British Museum.

FOUND AT PERGAMUM

This bronze head is in the best artistic tradition, but bears distinguishing marks of the Hellenistic age. Compare the treatment of the hair, for instance, with the more impressionist, even more successful, methods in, say, the *Hermes* of Praxiteles.



After "Altstädter von Pergamon IV."

GREEK THEATRE AT PERGAMUM WHERE ART FLOURISHED UNDER A LIBERAL KING

Owing to its steepness and its great height the Greek theatre at Pergamum is one of the most imposing to be seen anywhere. During the second century B.C. Pergamum was among the most renowned homes of art and literature in the Graeco-Roman world, and even rivalled Alexandria. Its library shared an equal repute with that of Alexandria, and its scribes have the credit of inventing parchment. Romans indeed thought that the sculpture and the architecture to be found within its walls was the most wonderful in the whole world. This illustration of the theatre shows admirably the way in which Greek architects took advantage of the natural contours of the hillside in building this type of structure; hence no two theatres are ever alike.



After "Allertamer von Pergamon IV."

FALLEN TOWERS THAT GIRT THE ACROPOLIS OF PERGAMUM, MISTRESS OF ASIA MINOR

Though Pergamum owed its wealth of art and literature to an era of peace, won by friendship with Rome, it was essentially a fortress-town, and originally appealed to Lysimachos when he posted Philoetainos there by reason of its defensible qualities. The illustration above of Pergamum as it is to-day helps us more easily to realise this; it shows the steep way from the tower city to the Acropolis, which, girdled with drowning bastions on its hilltop, dominates the fertile plain beneath. But it was not only the plains but all Asia Minor which once owned the sway of the enterprising city, for under the guidance of a series of far-seeing rulers Pergamum attained an eminence which only bowed to the advancing might of Rome, her erstwhile friend.

nephew, Eumenes, continued to grow and prosper. Its authority, however, remained local and circumscribed until the accession in 241 B. C. of Attalos, the cousin of Eumenes, who in the course of a brilliant and warlike reign raised it to the position of a considerable power. Attalos also was the first of the dynasty who assumed the title of king and the insignia of royalty.

His first expedition was against the terrible Galatians, to whom in all probability Pergamum had hitherto been obliged to pay blackmail. In a great battle he defeated them and took much of their territory. The Seleucid kings, alarmed at the growth of the new kingdom, formed an alliance with the Galatians, and the war continued for many years with varying fortune; in the end, partly by hard fighting, partly by diplomatic address, Attalos emerged victorious, with territory enlarged and prestige enhanced. He next turned his attention to the side of Greece, where the troops of Macedonia were threatening danger, and here came his crowning stroke of statecraft; he formed an alliance with distant Rome, already beginning its career of world-conquest, and by his fidelity through two trying campaigns won the future mistress of the world for a firm friend. Dying in 197 B.C., Attalos was succeeded by his son, Eumenes II., under whom Pergamum reached the zenith of its prosperity. At first came further wars in which Eumenes fought side by side with the Roman legions, and received broad lands in reward. But the remainder of his reign was comparatively peaceful, and it was he who largely completed the architectural layout of the city, which Attalos seems to have begun and which, when realised, made Pergamum a city unequalled for majesty in the whole ancient world.

The general idea was that of a semicircle or crescent of great temples and palaces crowning the crest and inner slopes of the ridge on which the old hill-fortress had stood. At the northern and highest end, overlooking the whole, was the royal palace, but this was over-built in Roman times, and its original plan is not now easy to trace. Moving to the south along the gently falling crest, came a row of four large halls opening out of one another. This was the site of the famous library of Pergamum, founded by King Eumenes, and second only in the whole ancient world to the Library of Alexandria. So jealous were the libra-

rians of Alexandria of their rival that they prohibited the export from Egypt to Pergamum of paper (papyrus). But the scribes of Pergamum, though deprived of their usual writing-material, rose to the occasion and produced a substitute which in name still to-day recalls its place of origin (*pergamentum*, parchment). After the library of Alexandria had been partly destroyed, Cleopatra asked Mark Antony to repair the loss by granting her the books at Pergamum. He consented, and it is said that two hundred thousand volumes were thus transferred to Alexandria.

In the centre of the crescent was a large open square contained on two sides by stately double-storeyed porticoes, on the third by the wall of the old hill-fortress, for this had only extended thus far along the crest; the fourth side was open to the precipitous side of the ridge. Within this enclosure stood a small and unpretentious temple of the Doric order, dedicated to Athene. This is the oldest building of the series, dating from the time when Pergamum had not achieved greatness and was but an insignificant town on the hilltop. Plain and unadorned, of coarse local stone, it seems out of place in the midst of its surroundings of gleaming marble, but we may easily guess the reasons which led the kings of Pergamum to leave untouched this venerable monument of earlier days.

Continuing southward and passing beyond the old fortress wall, a broad terrace is reached, commanding a superb view of the valley. Here Attalos had ranged a series of sculptures in commemoration of his victory over the Gauls; the originals have perished, but copies of some have been identified in various museums, the most famous being the Dying Gaul of the Capitoline Museum at Rome. Long known as "The Dying Gladiator," and the inspiration of Byron's "Butchered to make a Roman holiday," this statue is now recognised as a representation of one of the terrible barbarians whom Attalos subdued and as a direct copy of one of the figures set up by him on the terrace.

Next to the terrace came the most splendid monument of all, the Great Altar of Zeus, built apparently by Eumenes. It consisted of a huge base over a hundred feet square, on the top of which was the altar of sacrifice surrounded on three sides by colonnades, and open on the fourth side to a broad staircase cut



After the reconstruction by F. Thiersch.

ACROPOLIS OF PERGAMUM, CALLED BY THE ROMANS "PRE-EMINENT ABOVE ALL TOWNS OF ASIA"

Attalos I. had made himself the friend of Rome, thereby establishing the security of his state and widening his dominions; and his son, Eumenes II., by continuing in the same policy, brought such prosperity to the city that he could afford to lavish his wealth on its adornment. This reconstruction shows the Acropolis as it appeared at the height of its glory. The spectator is supposed to be looking northwards: in the foreground is the Altar of Zeus within its enclosure, and behind it the terrace where Attalos erected statues of the Gauls; beyond that again is the old fortress-wall, and within it a square with porticoes on two sides containing the small Temple of Athene. In the distance to the left is the later-built Temple of Trajan.



From Thiersch's "Königsberg von Pergamon."

RECONSTRUCTION OF THE THEATRE AND SOUTH FACE OF THE ACROPOLIS AT PERGAMUM

The two reconstructions on this and the preceding page should be taken in conjunction, as they embrace roughly the same section of territory, this view being from the west while the other is from the south. Here in the foreground may be seen the theatre: a broad terrace runs behind the stage, with the small temple of Caracalla at its extreme left. On the Acropolis itself, commencing from the left, are the Temple of Trajan, the colonnaded square with the Temple of Athene, the Terrace of the Statues, and on a lower level the Altar of Zeus. Where the Acropolis hill sinks towards the plain below the Altar of Zeus we see the small Temple of Dionysos, and finally, on the extreme right, the beginnings of the Agora, or market-place.



Capitoline Museum, Rome. Photos by Anderson.

THE FAMOUS "DYING GLADIATOR" FROM TWO ANGLES

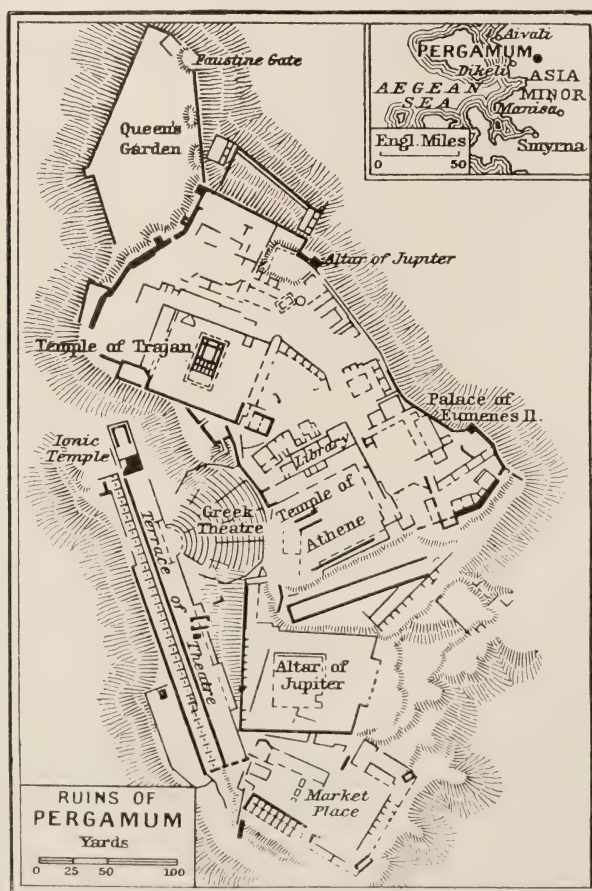
Another example of the "Gallic" theme, this statue of a dying Gaul is a copy of a lost original set up by Attalos I. on the terrace at Pergamum; it was long known as "The Dying Gladiator." For vigour and pathos it is admirable, but it has lost the harmonious curves of earlier figures in a similar attitude, such as the recumbent warriors in the Aegina pediments.



Kaiser Friedrich Museum, Berlin.

BATTLE OF GODS AND GIANTS FROM THE ALTAR OF ZEUS AT PERGAMUM

Victory crowns Athene, who is dragging a giant by the hair preparatory to slaying him. He is already in the toils of a mighty snake and Rhea—Mother Earth—pleads for the life of her son as she rises from the ground. This slab from the altar-frieze gives a vivid idea of the whole, whose keynote is strife and violent motion. It belongs to the second school of Pergamene art, and though in some ways it marks the highest achievement of this age, we miss the restraint of the earlier sculptors of the age of Attalos.





Kaiser Friedrich Museum, Berlin.

PORTION OF FRIEZE FROM THE ALTAR OF ZEUS

This frieze, representing as it does the Battle of Gods and Giants, was well fitted to typify the struggle of Pergamum with the barbarian Gauls. A goddess is shown poised to hurl a snake wreathed jar at a fallen giant, above whose head may be seen the remains of one of the life-like serpents which writhe in restless turmoil through the whole scene.

into the base. Around the base ran a continuous frieze of sculpture, of which the surviving fragments have been pieced together in Berlin. Some idea of the scale of the whole may be gained from the fact that the frieze was over a hundred and fifty yards long. It is the most extensive and most ambitious example of Greek art that has remained to us. The subject is the Battle of the Gods and Giants, a theme frequently treated by the Greeks as emblematic of the contest between civilisation and barbaric force, and of special significance therefore to the people of Pergamum, constantly mindful of their barbarian neighbours. In the slab illustrated in this section, Victory floats down to the goddess Athene, who drags a giant backwards by the hair, while the Earth, the mother of the giants, rises from the ground to plead for the life of her child. In technical brilliance this frieze has never been surpassed, but the general effect is restless and unsympathetic; we miss the quiet pathos which the older sculptors of Attalos were able to give to their representation of a dying foe.

The semicircle was completed on the south by an Agora, or space for the public assemblies of the city; this was surrounded by porticoes, and contained a temple of Dionysos. Lastly, unity was given to the whole composition by a magnificent colonnaded terrace, which ran along the chord of the semicircle at the level of the Agora. Two smaller temples adjoined this terrace, and behind it, in the centre of the whole, was a theatre of the usual Greek form, a semicircle of tiers of seats climbing up the hill-side, cut into the living rock.

Such was the group of buildings which crowned the summit of Pergamum, and which the German excavations of 1879-1885 revealed to us. The city proper lay still further to the south, and extended in terrace after terrace down the hill to the valley-level. During the present century the Germans resumed work with the view of investigating this lower city, but the work has of necessity been left uncompleted. Many houses, a market place, and a gymnasium on three terraces have been discovered, and the main road up the hill has been traced; under the paving of this runs a complicated system of water-pipes, conveying water from the distant mountains to the highest point of the city.

With the death of Eumenes in 159 B. C., the greatness of the independent kingdom of Pergamum declined; the two remaining kings, Attalos II. and Attalos III., did little further towards the embellishment of the city. It was as the ally of Rome that Pergamum had prospered, and Rome, now supreme and no longer in need of an ally, regarded its independence with suspicion and its wealth with jealousy. In 133 B. C. the last king of Pergamum, realising the inevitable, on his deathbed bequeathed the kingdom to Rome, and Pergamum henceforth became the capital of the Roman province of Asia. The change, however, did not affect its material prosperity; in the first century A. D. a Roman official could describe it as "preeminent above all other towns of Asia." In Roman times the population seems largely to have transferred from the hill to the valley, where a new quarter sprang up on the site of the modern town. No excavations have as yet been made in this area, though the ruins of baths and an amphitheatre are to be distinguished. The old palace of the kings, crowning the summit of the hill, was partly pulled down, and on its site was built a large temple dedicated to the Emperor Trajan.

It is disputed whether the allusion made in the Book of Revelations to the church in Pergamum as "dwelling where Satan's seat is" may simply refer to the fact that Pergamum was the headquarters of the official worship of the Roman emperors in Asia, or whether it may not be a direct reference to the Great Altar of Zeus. In any case, there is reason to believe that the destruction of the altar and the other monuments must be ascribed to the early Christians in their desire to efface all vestige of heathen worship. The sculptures when found bore marks of deliberate defacement, and the buildings were largely torn down to provide materials for a Christian church, and for a new wall around the summit; for with the decay of prosperity in the Roman world Pergamum became again the little town on the hill-top. As such for centuries it maintained an obscure existence, then in the fourteenth century came the Turks, after which the rocky crest appears to have been left uninhabited.

THE WONDER WORKERS OF THE
ANCIENT WORLD

BY W. ROMAIN PATERSON, M. A.

THE WONDER WORKERS OF THE ANCIENT WORLD

BY W. ROMAIN PATERSON, M.A.

Author of "The Nemesis of Nations"

A STRANGE and sinister fact meets us in the early history of architecture. Under the foundations of the great public buildings and temples of antiquity human beings, as well as animals, were buried alive as a peace offering to the gods. And there is reason to suspect that this form of propitiation was practised even in the case of Christian churches. It was an ancient belief that only by such a sacrifice could the stability of the structure be secured. On numerous widely separated sites human skeletons have been discovered under the foundation stones, and their presence there can have only one explanation. When the superstition decayed the human victims were replaced by images of men in the belief that such images, by sympathetic magic, might play the same salutary rôle.

In our study of these and similar crude imaginings we ought to remember that to early man it seemed an impious and audacious act to raise any edifice at all. For when the lightning struck it, or the wind or earthquake shattered it, such portents were regarded as the signal of the vengeance of supernatural beings. Man, who had lived like the beasts of the forest under the shelter of trees, or in holes in the ground, or in caves, challenged the powers of earth and air when he erected even the humblest dwelling. The gods, therefore, required to be appeased, and human blood was the sacrifice. To-day the builder's ritual consists in placing merely a few coins and newspapers of the realm under foundation stones, and this harmless transforma-

tion of a prehistoric barbarous building rite may help to remind us of the age-long process of the human struggle outwards from the entanglements of fierce and irrational creeds and superstitions.

But if the foundations of the great structures of the past were actually buried in human blood, the buildings themselves were, and still are, monuments of a vaster and more massive sacrifice. The amphitheatres, circuses and mausoleums, the mastabas and pyramids, the arches and aqueducts, the bridges and the paved roads, and all the temples of all the gods were built by means of slave labour. In some of the pyramids the stones weigh more than fifty tons each. How were they placed in position? Some of the obelisks of ancient Egypt, still standing, are over a hundred feet high. How were they hewn from the rock, and how were such immense monoliths handled? On the prehistoric acropolis of Tiryns the walls are sometimes forty feet in thickness, and are composed of enormous hammer-dressed blocks.

Elemental human labour lies behind these things. We admire the skilled carving of Babylonian gems or the finesse of early Ægean art and craftsmanship, the gold cups and breastplates, the gold masks for the faces of the dead, the faïence, the wrought ivory and the mosaics. But, after all, these are only the trinkets of antiquity. Far more impressive is the constructional effort, unaided, as it was, by the elaborate mechanical equipment of modern industry, which reared structures of cyclopean strength whose walls are still standing in defiance of time. Behind the genius of architect, sculptor, and engineer lay the rude labour of manipulation by generations of wageless men.

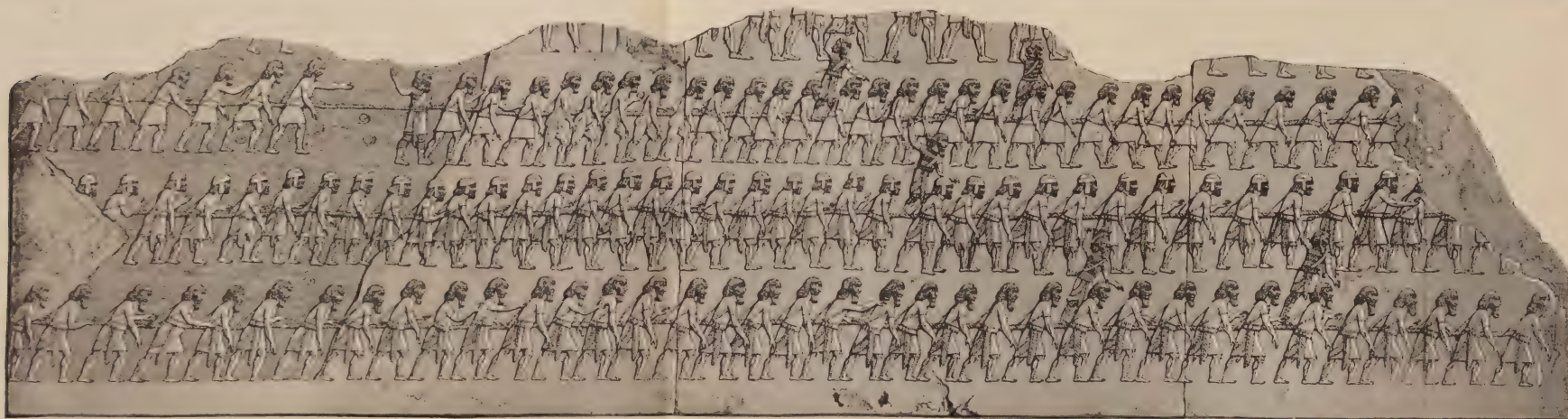
The ramparts of every fighting city, the walls of Babylon and Nineveh, and the massed monuments of Egyptian Thebes, the Palace of Cnossus, and the Palace of Khorsabad, the Parthenon and the Pantheon, the Colosseum, and the great Roman Baths were built because millions of workmen, without an indenture, were compelled to build them. What was the system of transport? What mechanical means were employed for the movement of material, the vast blocks of stone or marble or granite, diorite, and basalt? Before the long bronze saws, the hammers and chisels and drills of the masons and stone-cutters could be set to work, the blocks were first won from the quarries.



By permission of The Autotype Co.

ONE CHORD FROM THE ANTHEM OF MISERY RAISED BY THE SLAVES THROUGH ALL THE AGES

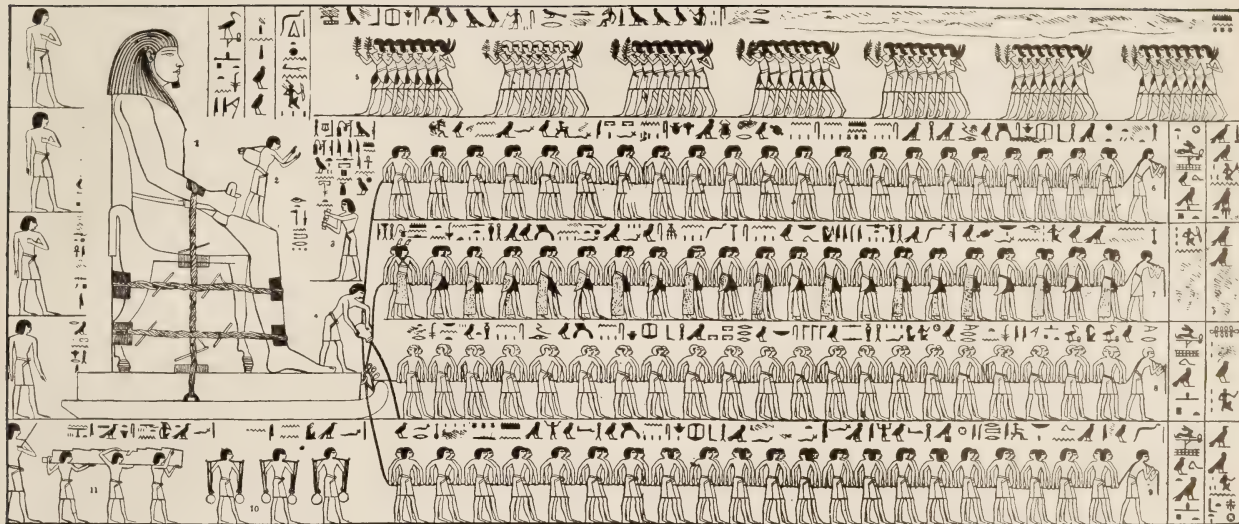
A contemporary Egyptian idea of the labour involved in transporting a colossus is shown on a later page; this illustration is reproduced from a painting of a similar scene by Sir Edward Poynter, entitled "Israel in Egypt." Gangs of those whip-driven slaves whose sweat and whose blood flowed to pile up the great monuments of the past are dragging into position a stone lion, for which the design has been taken from the Lion of Tutankhamen. The ropes strain, overseers ply their whips, and a high official, with his little son, watches from his litter. In the foreground a slave who has succumbed is being revived, but an overseer has obviously been trying more drastic methods of resuscitation. In this connexion it is worth recalling that the artist lengthened his picture when it was pointed out to him that there were not sufficient slaves to drag so great a mass.



THE PRIDE OF NINEVEH'S MONUMENTS RESTED ON STRAINING LIMBS AND CRACKING MUSCLES

From Layard's "Monuments of Nineveh."

If we turn from Egypt to Assyria the records tell us the same tale of groaning oppression. The two bas-reliefs illustrated above were both found at Kouyunjik, and are at present in the British Museum. Below, workmen—that is, prisoners or slaves—are towing a barge along the Tigris under the supervision of the inevitable overseers; top, further gangs are dragging one of the great human-headed bulls up an artificial mound. Of the four officers who stand on the bull itself, giving directions, one is making use of an instrument which may be a megaphone or a trumpet, and as King Sennacherib himself is watching the scene from his chariot on the top of the mound it is doubtless his great palace which is being constructed. The bull has just been transferred from the barge to the bank by means of an enormous lever, for which a slave adjusts the fulcrum. In the lower left-hand corner it is of interest to note that water is being raised in two stages to a higher level for one of the numerous canals by means of the still universal "shādūf." Mesopotamia was far better irrigated then than now, and for this, too, slave-labour was essential.



From "Ancient Egypt," by Wilkinson.

WHOLE ARMIES OF MEN FOR THE SERVICE OF A GRAVEN IMAGE

This wall-painting, from a grotto at El Bersheh, for all its quaint lack of perspective, characteristic of Egyptian art, gives a vivid picture of the man-power which the Egyptians threw into the erecting of their monuments. A colossus is being transported from the quarries; four rows of forty-three men each are dragging it, soldiers guard it, workmen bear tools, a man stands on the sled and pours oil before it, and finally an overseer stands on the knees of the statue and gives the "chanty," clapping his hands in time.



accumulated and transported. There were no steam or electric cranes to raise within a few minutes to the required level tons of stone and brick; no steamships to bring the material of the architects down rivers or across the sea.

There was no dynamite for blasting the rock. Human energy was the only dynamite, and the machinery of the ancient world was living machinery. Gangs of slaves were harnessed to the great stones, and drew them slowly up the inclined plane which was gradually lengthened, like a kind of extension ladder, towards the platforms as the building grew higher and higher. There were no traction engines or steam road rollers, and a single motor-lorry to-day can accomplish transport within a few hours which five hundred slaves could not have accomplished in as many weeks or months. The civilised world has been long acquainted with a unit of traction or propulsion called "horse-power," and it is in terms of horse-power that we still reckon an engine's capacity for work. It is true that primitive peoples utilised the ox and the ass and, although much later, the horse as draught animals. But as their civilisation became more and more consolidated the chief unit of energy was the slave.

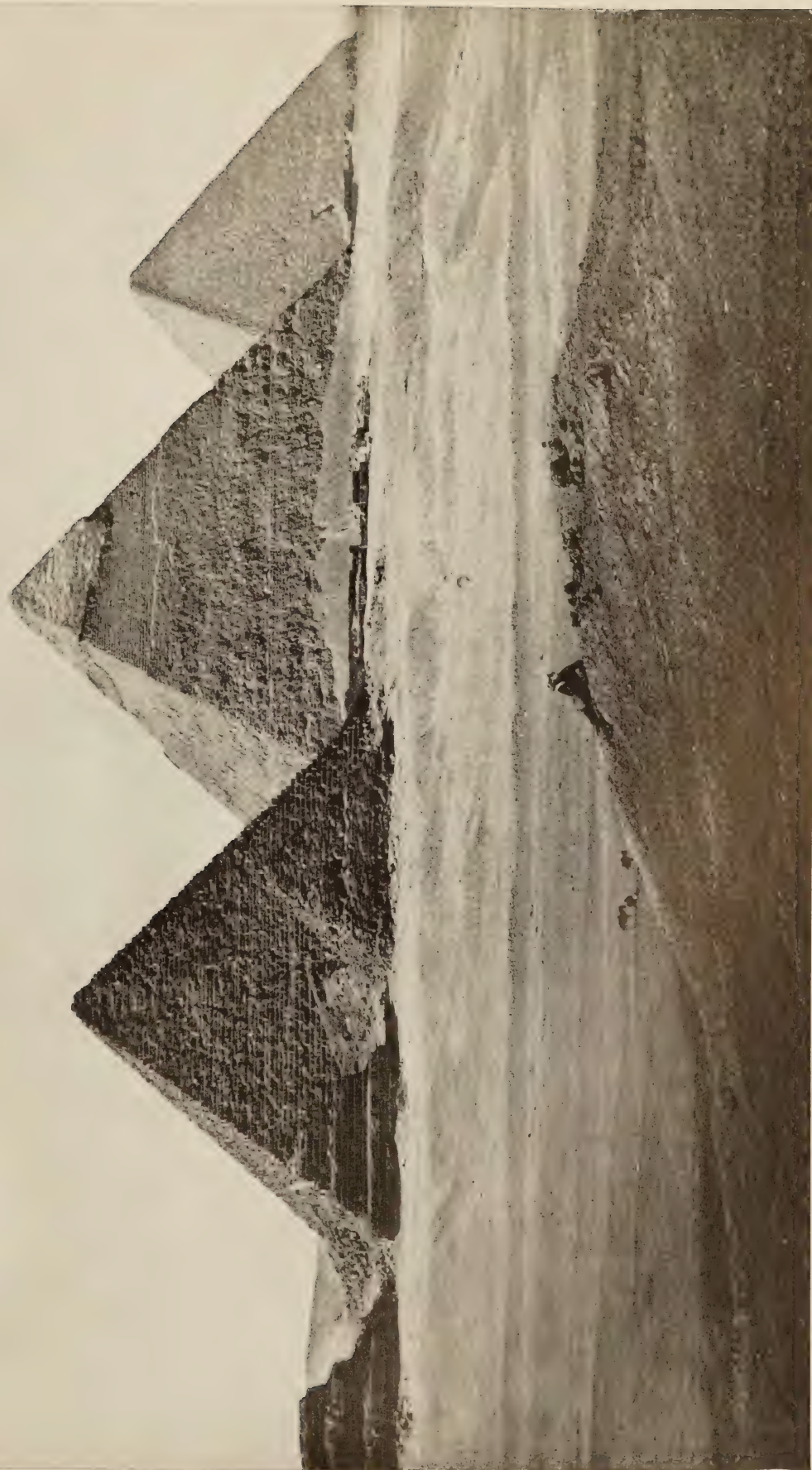
Now let us contrast, as briefly as possible, the great structures of imperial cities like Babylon, Thebes, Athens, and Rome with the humble building activities of primitive tribes. One of the main characteristics which distinguish man from the animals is that he is a maker and transmitter of tools. Bird and beaver and anthropoid ape are, indeed, builders, too, but they have, as implements, only what nature has given to them, teeth and feet, beak, claws, and hands. On the contrary, man was early at work with some kind of tool, and the oldest human sites have delivered up not merely his war weapons, but the weapons with which he carried on a war with nature. Probably the most important of all his implements was the stone axe with which he felled the trees that gave him material for his first rude huts and boats. It is strange to think that before he could work as a carpenter he was compelled at first to work with stone. It was not an axe of steel, it was an axe of stone, often with a stag's horn as a handle, which made clearings in the primeval forest, and laid the trail of civilisation.

Thousands of years before what has been named the

“Minoan” culture flourished in Crete, the islanders were using all sorts of instruments made of stone. Excavations carried out by Sir Arthur Evans on the site of the great Palace of Cnossus, which covered six acres (see pp. 55-62), revealed the remains of Neolithic or Later Stone Age culture, which reach back 13,000 or 14,000 years. But in Africa and Asia, as well as in Europe, flint implements of the same kind have been discovered in various stages of development, from the rough stone held in the hand without a handle, and used for breaking or bruising, to the chipped and flaked flints used as sharp chisels or arrow heads or spear heads. Man’s real constructive effort, however, could not begin until he had ceased to wander in search of a precarious livelihood. The word “to build” has been traced to a Sanskrit equivalent *bhu*, which means *to be* in the sense of something steady and fixed. In other words, the industries became possible only when a site for human habitations had been chosen.

And since the first sites were often in un-irrigated land, many of the earliest dwellings were built on piles. Moreover, for reasons of safety and as a precaution against the attacks of wild beasts as well as the attacks of hostile tribes, whole villages, known as lake dwellings, were constructed in the water. In the lakes of Africa as well as of Switzerland, in Borneo and in the Pacific islands, on the Amazon and on the Po, houses of the same kind erected on piles have been discovered, together with typical implements of the Early Stone Age, the Late Stone Age, and the Age of Bronze and Copper. But such dwellings were elaborate and even sumptuous compared with those of a less advanced stage of civilisation.

Even as late as the second century before our era, numerous European tribes were still nomadic or semi-nomadic, and lived in wagons. Others lived in dug-outs in which the entire family and its cattle took refuge. The human inmates descended by a ladder or climbing pole, while the cattle entered through lateral shafts. When huts were built they were usually of circular shape, and the door was in the roof. Here, again, we see a precaution against enemies, animal and human. There were no windows. The occupants entered their houses by means of a ladder, which was pulled up after them. And this oldest form of house appears in Babylonia as well as in Europe. A story in



MOST FAMOUS OF ALL THE PYRAMIDS OF EGYPT, THE FROWNING TRIAD OF THE GIZEH PLATEAU

The pyramids of Gizeh are the best known of these great structures; some people, indeed, are unaware of the existence of any others. Built by kings of the fourth dynasty, and thus antedating the pyramids at Abusir by one or two hundred years they are yet the greatest and most ambitious of their class ever attempted. This view is from the south-west. The nearest pyramid, that on the left, is the smallest and latest and was built by Menkaure or Mycerinus (c. 2850 B.C.). Next in order, as regards date, size, and position, comes the Pyramid of Khafra (Chephren) which still preserves some of its granite casing near the top; and loftiest and earliest, the Great Pyramid of Khufu (Cheops).



Photo from W. M. Flinders Petrie.

STEP PYRAMID OF ZESER AT SAKKARA, FORERUNNER OF ALL ITS KIND

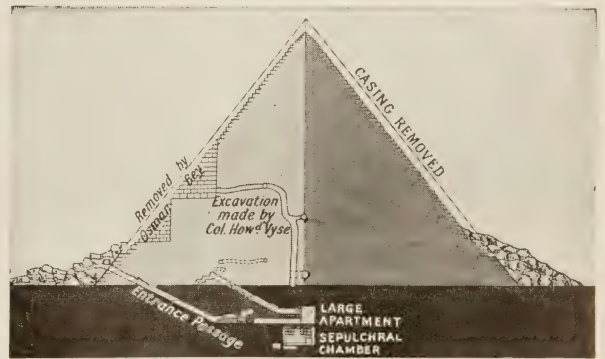
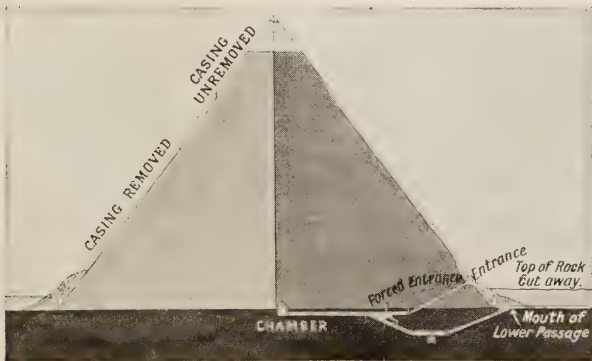
The pyramids at Sakkara form a series of great interest extending over a long period, and of these none is more important than the "Step Pyramid," first of all pyramids, built by King Zeser or Tchaser, of the third dynasty (c. 2980 B.C.). With the rise to power of this dynasty in Egypt the archaic period began its era of greatest prosperity, signalled by the change from the "mastaba" to the pyramid as a royal tomb and the increasing use of stone instead of brick as a building material.



Photo by Donald McLeish.

SECOND PYRAMID OF GIZEH, WITH ITS CAP OF POLISHED STONE

An obscure king succeeded Khufu, and then came Khafra, or Chephren, the builder of the second pyramid at Gizeh, known to the Egyptians as "Ur," and here viewed from the summit of the Great Pyramid. Figures convey little of its immensity, but, with its height of about 450 feet and its base-line of 700 feet, it is calculated to contain some 60,000,000 cubic feet of rock. The polished stone with which the whole building was once cased has long since vanished, with the exception of the topmost portions.



SECTION THROUGH THE SECOND GIZEH PYRAMID (LEFT) AND THE THIRD PYRAMID (RIGHT)

The Pyramid of Cheops is unusual, having the burial chamber in its centre. The section through the second pyramid shows the more normal arrangement, and indicates the extant portion of the original stone casing. Large portions of the third pyramid were removed by Osman Bey in a frantic search for treasure, as shown by the right-hand section, but the tomb-chamber, with the mummy and its sarcophagus, were not discovered until 1838. These were then shipped for England, but were lost on the journey.



WARDEN OF THE DESERT MARCHES, THE GREAT PYRAMID OF CHEOPS

To realise the position of the three pyramids at Gizeh in relation to Memphis, modern Cairo, and the rest of Egypt, it would be advisable to consult the colour-map in Volume I. Above is the Great Pyramid of Khufu, or Cheops, as he is known to Greek writers, seen from the plain; the Egyptians called it "Khut." It will be discussed more fully later, but, in connexion with Prof. Peet's conclusions, it is worth mentioning that 300,000 men are recorded by Diodorus to have been employed on its construction.



Metropolitan Museum of Art, New York City.

EARLIEST STONE MONUMENT OF GREAT SIZE, THE STEP PYRAMID OF SAKKARA

The pyramid of Zoser is about 200 feet high and is built in six "steps," decreasing upwards from 38 to 29½ feet in height. Its shape and method of construction show clearly that it is in the transition stage from the "mastaba," for it is rectangular instead of square, the base measurements being 351 and 394 feet; indeed, although of stone and not of brick, there is evidence that it was commenced as a mastaba and added to afterwards. The architect was probably the famous deified Imhotep.

the Vendidâd, the Leviticus of the Persians, enables us to understand the frail, tent-like character of early human habitations. A Persian died at some distance from his house, and the question arose whether the corpse should be carried to the house or the house to the corpse.

Let us now ask what had happened in the human world between the era when mankind were dwelling isolated in their "funnel pits" or crouching for shelter behind a mere wind screen of branches or palm-leaves, and the era when vast populations were congregated within the walls of planned cities like Babylon, Nineveh, and Persepolis. Millenniums separated the rude efforts of primitive builders from the great achievements of Babylonian, Assyrian, Persian, Egyptian, and Ægean architects. And yet the advance in the technical equipment of building was extremely slow. Stone tools were still being used long after prehistoric times, although such tools were supplemented in Asia and Africa by certain implements of copper and bronze. Iron came only late, and was at first so precious that it was worn as an ornament. Nevertheless, immense structures like the Pyramids of Egypt and the Babylonian and Assyrian palaces were raised. Instead of clay cabin or fragile hut, it had become possible to build at Persepolis splendid edifices, some of whose great blocks of marble are still standing on "the throne of Jamshyd."

Later, there arose in Rome, as a proof of imperial extravagance, the Golden House of Nero, with its endless gardens, to defray the cost of which Italy and all the provinces were taxed. Instead, too, of the first rude idol set up in the wind and rain it had become possible to raise the colossal temples of Thebes, linked by avenues of sphinxes and dominated on both sides of the Nile by the great obelisks with their tops sheathed in bright metal to catch the rays of the rising and the setting sun. We shall take a random glance at a few of the remains of antiquity in order to point out the connexion between such public monuments and the social conditions out of which they arose.

It is possible that early writers, like Herodotus (484-425 B.C.), may have exaggerated the dimensions of the walls of Babylon (see pp. 311-316), but of their immense height and width no excavator has any doubt. So wide were they that a four-horse

chariot could be turned upon them. Their fortified towers, of which the number is supposed to have been 250, dominated the district. The circuit of the walls enclosed an area of some 200 square miles, and their hundred gates were all made of bronze. The Euphrates flowed through the city, its banks were busy quays between which there was a constant service of ferry boats, and a great drawbridge linked both sides of the river. The streets, planned mathematically like the boulevards of Paris, the great Temple of Bel-Marduk, with its image, altar, and mercy seat of solid gold, the Hanging Gardens (see Frontispiece and pages 293-297), supported by arches and forming an immense elevated square, the hydraulic pumps which fed the tropical plants with water from the Euphrates, the observatories and the libraries filled with astronomical, astrological, and theological records, the raised Processional Way, the crowds of foreign merchants and pilgrims who came annually to visit the great city of religion and fashion—all this dazzled the imagination of the ancient world and caused Isaiah to describe Babylon as “the glory of kingdoms.”

If we pass to her daughter Nineveh (described in pages 245-255) we shall find likewise the vestiges of a sumptuous civilisation. In the fourth century B.C. its walls, although partially destroyed and in ruins, were, nevertheless, at some points 150 feet high. Sennacherib (705 B.C.) renovated Nineveh in the same spirit of magnificence which later urged Nebuchadrezzar (605 B.C.) to renovate Babylon. For instance, the wonderful bas-reliefs in the British Museum prove the existence at Nineveh of a great school of sculpture, and the clay tablets from the Library of Assurbanipal, or Ashurbanipal (668 B.C.), prove that the city was also a centre of literature and learning, although its culture had a Babylonian origin. Excavations on the site of the Palace of Sargon II., King of Assyria (722 B.C.), have revealed a building which covered an area of nearly a million square feet. The two winged bulls, now in the British Museum, guarded the principal entrance. It has been estimated that Sargon's palace must have contained some 700 rooms, many of them richly decorated in bas-relief. The hall alone was 150 feet long.

But this delight in vastness is characteristic of the architec-

ture of the ancients. At Persepolis the Hall of Xerxes appears to have covered an area of more than 100,000 square feet, and its columns were 65 feet high, while in another Persian palace the roof was supported by one hundred pillars. Or, let us consider for a moment the Great Pyramid erected for his own tomb by a king of Egypt, Khufu (Cheops), in a still remoter age. It is about 150 feet higher than S. Paul's Cathedral, and its site comprises thirteen acres. Herodotus, during his stay in Egypt, listened attentively to the tradition which had gathered round the building of this gigantic monument. He informs us that hundreds of thousands of slaves were employed in the work, that ten years were required to make the road from the quarries to the site, and twenty years for the construction of the pyramid. Lastly, in order to emphasise the vast scale on which ancient structures were designed, let us remind ourselves that the Colosseum at Rome accommodated at least 50,000 spectators.

In this brief sketch we have tried to catch only a glimpse of man's progress as a builder. At first shelterless, he searched for a mere roof to cover him from the storm. During thousands of years he was content with the frailest structures. Then he continued to add to his tool-chest, and was at length able to erect immense and durable buildings. But it was by means of collective labour that he achieved these results. Families had fused into tribes, and tribes into nations, and nations had acquired territory and wealth. There are only three ways in which labour can be organised: (1) by compulsion; (2) by contract; and (3) by association. In the first case we have the great slave system of the past, in the second the modern institution of hired labour, in the third the communist plan.

In antiquity, there no doubt existed a small minority of free artisans, but the great workingclass who carried out the vast building schemes to which we have referred were owned as slaves by the state. In the series of sculptured slabs from Nineveh we are provided with a realistic picture of ancient methods of transport of material and of building operations. We see, for example, one of the colossal winged bulls which flanked the entrance of an Assyrian palace being moved from the quarry to the point of emplacement. Gangs of slaves, superintended by slave drivers, with their slave whips, are towing the

flat-bottomed boat with its freight along the river tow-path, towards the unloading quay, where, by means of levers and hawsers and an inclined plane, they raise the immense block to its destined site.

Similar scenes were enacted during thousands of years throughout the area of ancient civilisation. In his pride, Sennacherib boasts in one of his inscriptions, "According to my heart's desire I built a palace of alabaster and cedar." But in all such undertakings countless thousands of slaves were used up, and in order to fill their places and to obtain new captives fresh wars were waged. When, therefore, we look at the remains of the great structures of antiquity it is well to remember those dim, anonymous, wageless generations by whose massed labour they were raised.

Moreover, since servile labour was employed in all the subsidiary trades and occupations—among the potters, the weavers, the dyers, the goldsmiths, the stone carvers, sculptors, and painters, in the silver mines of Attica, the copper mines of Cyprus and Sinai, the iron, salt, and sulphur mines of Persia, in Caucasian naphtha pits and the ruby mines of Bactria, in the marble quarries of Greece, and the brickfields of Babylon, in short, in all the arts and crafts that lie behind civilisation—we shall not hesitate to consider the slaves as the real Wonder Workers of the Past.

THE GREAT MONUMENTS. II
THE PYRAMIDS OF EGYPT

BY T. ERIC PEET

THE PYRAMIDS OF EGYPT

BY T. ERIC PEET

Professor of Egyptology, Liverpool University

AN account of the Great Pyramid of Cheops has been written for this work by another contributor, and falls, according to our editorial plan, into the series of articles on the Seven Wonders. Here Professor Peet describes the pyramids of Egypt generally: what they are, who built them, their number, which is larger than is generally supposed, of what material, and by what means they were erected.—EDITOR.

THERE can be little or no doubt that the fascination exercised by ancient Egypt over the thinking beings of all ages is due first and foremost to two things—her mummies and her pyramids. She claims recognition by the fact that she evolved a means of preventing the bodies of her dead from decay, and the tombs of her greatest rulers from destruction at the hands of man and time. The child who enters a museum directs his first steps to the mummy-room; the tourist's first excursion in Egypt is to the pyramids of Gizeh.

And yet there is nothing in Egyptian civilisation with regard to which more foolish and incorrect ideas prevail in the popular mind than these two very subjects—pyramids and mummies. There is an intimate connexion between the two. They illustrate one and the same idea—the pathetic efforts made by the Egyptians to preserve their dead from interference and corruption. The body was mummified because it was believed that even in the after-life it would still be needed, and that if it went to pieces a kind of second and more fatal death would occur. The pyramid was piled over the tomb-chamber partly, at least, in order to conceal the exact whereabouts of the body, and to

prevent evilly-disposed persons from destroying it and so bringing about this second death.

The main questions which may be asked about the pyramids, and which we shall endeavour to answer here, are the following: What are the pyramids, and by whom were they built and when; where, and how many are there; and of what material and by what means were they built?

The purpose of the pyramids has aroused the curiosity of all ages. In a book written in the middle of the last century we find solemnly enunciated the opinion that they were the store-houses which Joseph built to store up grain against the seven years' famine. And yet, even before the decipherment of the Egyptian language, there was never any doubt upon the matter, for the Greek historians and travellers state quite unequivocally that the pyramids were the tombs of kings; while the Arab rulers of Egypt in the Middle Ages were wont to ransack them for the wealth supposed to lie within or beneath.

The pyramids then, are tombs, and they are the tombs of kings, and occasionally of queens and other members of the royal families. The proofs of this lie, first, in the fact that the royal coffins, and sometimes even the remains of the bodies, have been found within or beneath them, and secondly, in the fact that the Egyptians' own statements on the subject, both on the walls of these pyramids themselves and elsewhere—quietly ignored by those who prefer their own imaginings to hard facts—leave no doubt on the matter. Such beliefs as that the Great Pyramid of Gizeh served during its construction as an observatory for watching the motions of certain stars are the phantasy of dreamers who can blind themselves to the facts, and are unworthy of serious consideration.

How many, and where are the pyramids? Popular belief for the most part recognises only three, those of Gizeh, about five miles south-west of Cairo. As a matter of fact, there are very many more than this. They may be divided into two main groups. The first occupies what is known as the Great Pyramid Field, which extends along the west bank of the Nile for a distance of sixty miles from Abu Roash (due west of Cairo) in the north, to Hawara in the south. The other, with which we shall deal but lightly here on account of its minor importance and late



After Herr Borchardt, by permission of Messrs. Heinrichs, of Leipzig, from his "*Grabdenkmal des Königs Ne-user-ra*."

RECONSTRUCTION OF THE THREE PYRAMIDS AT ABUSIR WITH THEIR TEMPLES AND APPROACHES

Of the two outer pyramids at Abusir, other than the central one of Sahu-ra, one was built by King User-er-ra, or Neuserre, both of the fifth dynasty also; they were known as "Ab-asir" and "Men-asir" respectively. They are not as big as the more noted pyramids of the fourth dynasty, and might be not wanting that by this time the centralised power of the Pharaohs was waning. Beneath the shadow of these monuments of the remote past our wonder is merged in that strange selfishness induced by dead cultures and vanished empires. To a sightseer of Tutankhamen's days they would have appeared scarcely less venerable in their antiquity than they do to-day.



From a photograph taken and coloured in Egypt by H. A. Fewett, M.R.C.S., D.P.H.

PYRAMID OF KHAFA AT GIZEH ILLUMINATED BY THE LIGHT OF THE MORNING SUN

When all else seems gay and only the pyramids lose nothing of their ancient grimness, with every stone and every crevice picked relentlessly out in the soft but mistless light of an Egyptian morning—this is the moment chosen by the photographer to make us feel the weight of their fifty centuries.

date, is in the Sudan around Meroe and Napata, and is the burial-ground of the Ethiopian kings—some of whom also ruled Egypt—of the eighth century B.C. onward, and their Meroitic successors. It is only of late years that these tombs have been scientifically investigated by the Harvard-Boston expedition under Reisner; and excavation is still in progress.

In addition to these two great groups of pyramids there were others, notably at Thebes, opposite the modern Luxor. Here, for example, still lie the remains of the pyramid and pyramid-temple of King Mentuhotep III. of the eleventh dynasty, excavated some years ago by the Egypt Exploration Society, and quite recently an American expedition has discovered that King Mentuhotep V. of the same dynasty also began for himself a tomb near the same spot. The Abbot papyrus, which contains an account of the plundering of royal tombs in the twentieth dynasty, records the examination by state inspectors of ten royal pyramids dating from the thirteenth to the eighteenth dynasties, nine of which were intact and one broken open. These were doubtless comparatively small monuments, and only slight traces of a few of them now remain.

We may, therefore, return to the more important and interesting northern group in the Great Pyramid Field. The most northerly pyramid is to be found at Abu Roash, eight miles due west of Cairo; it is the tomb of King Razedef of the fourth dynasty, about 2900 B.C. Next, four miles to the south, lies the famous Gizeh group, the tombs of the great kings of this same dynasty, Cheops (Khufu), Chephren (Khafra), and Mycerinus (Menkaura). East of the first are three smaller pyramids, doubtless designed for members of the royal family, and three more lie to the south of the pyramid of Mycerinus. Round about this group of royal tombs are the mastaba-tombs of the courtiers and nobles and their families, rectangular structures of stone, with walls slanting slightly inwards, containing chambers often sculptured and painted, and concealing the entrances of the underground burial pits.

Moving southward and passing by the unfinished pyramid of Zawiyet el Aryan, we reach Abusir, where are the slightly less imposing brick pyramids of three great kings of the fifth dynasty, roughly 2750-2625 B.C., together with the temples which they

built in honour of the sun-god. Moving on again, we next reach Sakkara and its pyramids of the fifth and sixth dynasties. These are from one point of view, despite their ruined condition, the most important of all the pyramids, for the walls of their chambers are covered with inscriptions. These, as may be imagined, are of a funerary character. Their value is twofold: in the first place, they provide a mine of information concerning early Egyptian religion, and in particular its beliefs regarding death and the after-life, and in the second they are the earliest surviving specimens of any length of the written Egyptian language.

In addition to this group, Sakkara boasts yet another pyramid, interesting as being the earliest known to us. It is built in steps or stages, and known to the tourist as the Step Pyramid. It stands to-day 197 feet in height, and is peculiar in that its base is not, as usually, a square, but a rectangle, 394 by 351 feet. It is the tomb of King Zeser of the third dynasty, who ruled roughly 2980 B.C., and who also possesses a second tomb—as more than one Egyptian monarch did—at Bet Khallaf, 300 miles farther up the Nile.

Still farther to the south is Dahshur, where lie buried under their ruined pyramids some of the great monarchs, the Amenemhets and Senusrets, of the twelfth dynasty, 2000-1788 B.C. After this there is a gap in the long line of pyramids until we reach Lisht, where there are two more of this same dynasty. Yet farther south, at the entrance of the oasis of the Fayyum, lie three isolated pyramids, that of Amenemhet III. (twelfth dynasty) at Hawara; that of Senusret II., of the same dynasty, at El Lahun; and that of Sneferu, an early king of the fourth dynasty, at Medum. The last is one of the most imposing features of Egyptian landscape. It stands on a mound, partly artificial, 120 feet in height, and rises in three steep steps, or stages, to a height of 114 feet, with a flat, not a pointed, top.

Such is a brief description of the pyramids of the Great Pyramid Field with their dates. Before we can go any further into the details of some of the more interesting of these tombs we must first explain the relation of the pyramid to the important group of buildings which lay about it.

A pyramid, as has been stated above, is a tomb. More exactly it is a tomb-chapel. The Egyptian tomb of any preten-



From a photograph taken and coloured in Egypt by H. A. Fawcett, M.R.C.S., D.P.H.

PYRAMIDS AT GIZEH SEEN THROUGH THE FEATHERY PALMS THAT FRINGE THE NILE

Seen unforeshortened by perspective, as here, these pyramids tend less to rob each other of their size. About their base, and especially by the small pyramid of Menkaure on the extreme left, may be seen smaller pyramids erected to cover the bones of royal kinsmen and lesser personages of the court; there were also many mastaba-tombs, for in death as in life the perfect courtier wished to be near his king. It must be remembered that these mighty structures are purely and simply tombs, and those who try to find other purposes for them are as likely to be disappointed as the old Khedives who pillaged them in vain for treasure. Of more practical use has been their casing of polished stone, pillaged ceaselessly by the architects of Cairo.

sions to size invariably consisted of two essential parts, a tomb-chamber and a tomb-chapel. The former was in most cases an underground chamber containing the body in its coffin of wood or stone; the latter was a building above ground, made of brick or stone, perhaps in some cases of wood, in which the relatives of the dead man or the funerary priests attached to his tomb made the daily offerings of food and drink for his consumption. Thus the typical tomb of the noble of the fourth dynasty was the mastaba described already, a rectangular building of stone, with slightly sloping walls, containing the small rooms in which the offerings were made. Under this lay the tomb-chamber, cut in the solid rock, and entered either by a pit or a staircase generally concealed by the mastaba.

In the third dynasty the royal tomb had been of a similar type, but much larger, and built, in the cases known to us, of brick. But towards the end of the dynasty Zeser introduced a new type of royal tomb, the pyramid. There are some who believe that the pyramid is simply a developed mastaba with a pointed top. Architecturally there may be a germ of truth in this, for some of the pyramids do seem to have been begun as mastabas and afterwards given successive outer coatings and finished off in a point. Other egyptologists, however, would see in the pyramid the embodiment of a totally new idea.

At Heliopolis, in the Delta, not far north of Cairo, was the centre of sun-worship in Egypt. Here, in the Sun Temple, was preserved a sacred pyramidal stone called the "benben." Now the summit of a pyramid or an obelisk was known in Egyptian as "benbent," possibly from its resemblance in shape to the sacred stone, and if this idea is correct it would seem that both the obelisk and the pyramid were closely connected with sun-worship. In this case it would be in no way extraordinary that at a period when sun-worship was coming more and more into prominence in Egypt, the king should give to his tomb a form expressive of his adherence to the solar cult, with which, incidentally, current beliefs concerning death and the hereafter were intimately bound up, as is evident from the inscriptions in the Sakkara pyramids.

However this may be, the fact remains that for centuries from the fourth dynasty onward each king aspired to build him-

self a tomb in the shape of a pyramid. As the type developed the offering-chambers ceased to be placed inside the pyramid itself, and took the form of an imposing pyramid-temple built on to its east side. The burial chamber still lay in the solid rock beneath the pyramid (with a few exceptions) and was entered by a staircase or sloping passage, often approached by a concealed opening in the north face of the pyramid not far above its base. But this was not all. The pyramids were mostly built on the high desert plateau, many feet above the level of the cultivation, and it was a long and rough climb to reach them. To remedy this, a second smaller temple was built for each pyramid down in the cultivation, a kind of introductory or entrance-temple, and from this a covered inclined passage led up into the pyramid-temple proper on the plateau above. Thus in the flood-time visitors to the tomb would be carried in their boats to the landing-stage of the introductory temple, where they would disembark. After a short preliminary ceremony there they would advance up the covered incline to perform in the temple proper the ceremonies for which they had come (see illustrations facing pages 370 and 374).

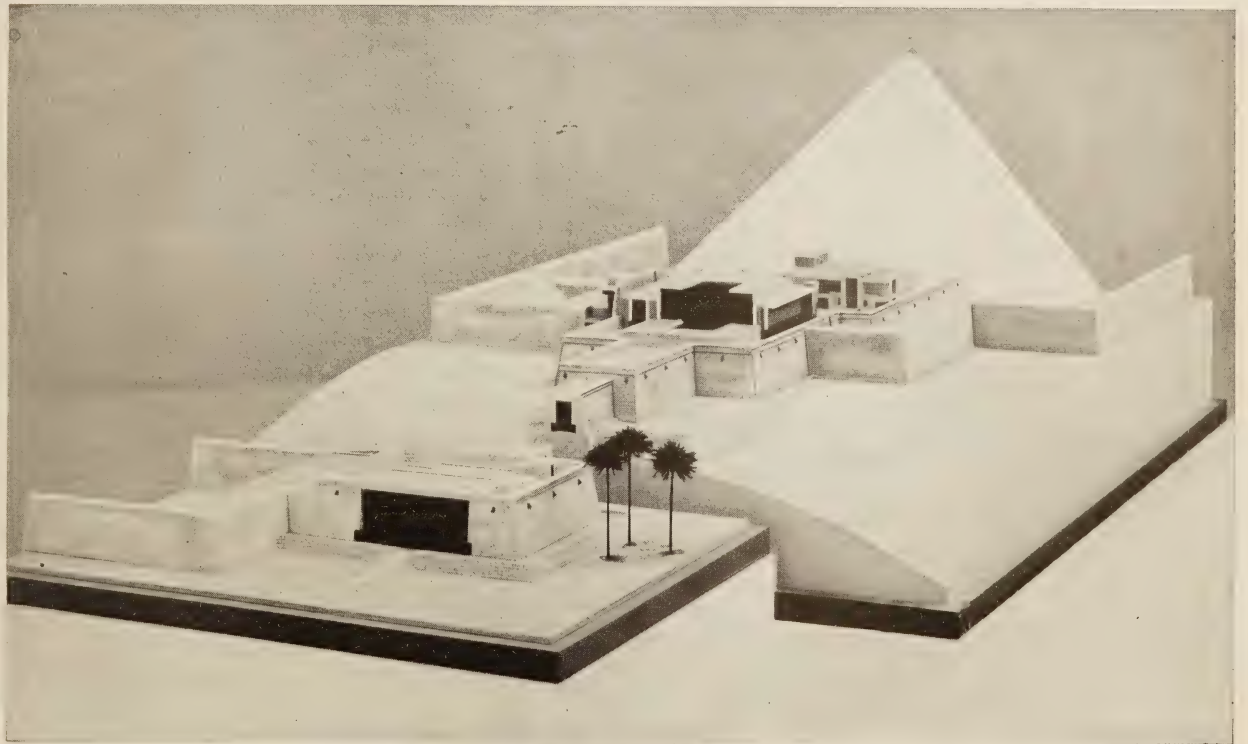
The relation of these component parts of the pyramid group has only been fully understood through the excavations of the last twenty years, notably those of the second and third pyramids of Gizeh, and the pyramids of Abusir. Every finished pyramid thus consists of four parts, the pyramid proper, the pyramid temple, the covered incline, and the introductory temple in the plain.

We may now apply this scheme to the famous pyramids of Gizeh. Of that of Cheops, the Great Pyramid, we shall say little, for it is described in another part of this work by Mr. Arthur Weigall. Suffice it to say that, in addition to the usual burial chamber cut in solid rock beneath its centre, it has—and in this it is almost unique—a series of chambers of unusual form within its core. Its original height was about 481 feet, and the four sides measured 755 feet 8 inches, with a maximum error of no more than an inch. The angle of slope of the faces is 51 degrees. Some of the stones used weigh sixteen tons, and yet so perfect is the masonry that the joints between stone and stone average only one-fiftieth of an inch.



PYRAMIDS OF BRICK AND STONE AT DAHSHUR WITH 1,000 YEARS BETWEEN

The pyramids at Dahshur belong to two widely separated ages in Egyptian history, of which, strangely enough the earlier produced the finer structures by far. The ruinous brick pyramid in the foreground, for instance was built by a king of the twelfth dynasty (c.1900 B.C.), during the Middle Kingdom, when less labour was expended on such unproductive works and stone only used for facing. In the background, however, may be seen an early stone pyramid which is second only to that of Zeser at Sakkara.



Metropolitan Museum of Art, New York City.

MODEL OF THE PYRAMID OF SAHU-RA, SHOWING THE TEMPLES ATTACHED

King Sahu-ra, of the fifth dynasty, built himself the pyramid at Abusir known as "Kha-ba," whose model here illustrated is intended to show the four component parts of such structures in their relations to each other. First comes the entrance-temple on the edge of the flood-limit, next the covered way, here divided and foreshortened. This leads to the pyramid-temple where the priests officiated; and, finally the pyramid towers above the tomb, evidence perhaps of sun-worship.



Photo from W. M. Flinders Petrie.

MEDUM PYRAMID OF KING SNEFERU, RENOWNED AS A WARRIOR-KING

Another important site is that of Medum, where stands the pyramid of King Sneferu; he is reckoned either as the last of the third or the first of the fourth dynasty—there appears to have been no real break between the two. In any case, Sneferu is the first king of Egypt who really takes shape as a historical figure, inaugurating as he did a great period of prosperity, raiding the Sudan, conquering the Sinaitic peninsula, and establishing there a settlement of turquoise and copper miners.



CLOSER VIEW OF THE THIRD DYNASTY STONE PYRAMID AT DAHSHUR

The earlier pyramid at Dahshur here illustrated is one of two built of stone which are almost certainly to be attributed to the successors of King Zeser; of them little is known except that they must have maintained the prosperity of his reign to erect such imposing monuments. In a sense, these are the first pyramids, certainly the first to assume the conventional pyramidal shape, for, in contrast to the Step Pyramid, the courses of masonry were faced so as to give them an unbroken outline.



Photo from W. M. Flinders Petrie.

STRANGE OUTLINE OF SNEFERU'S PYRAMID RISING FROM THE SANDS OF EGYPT

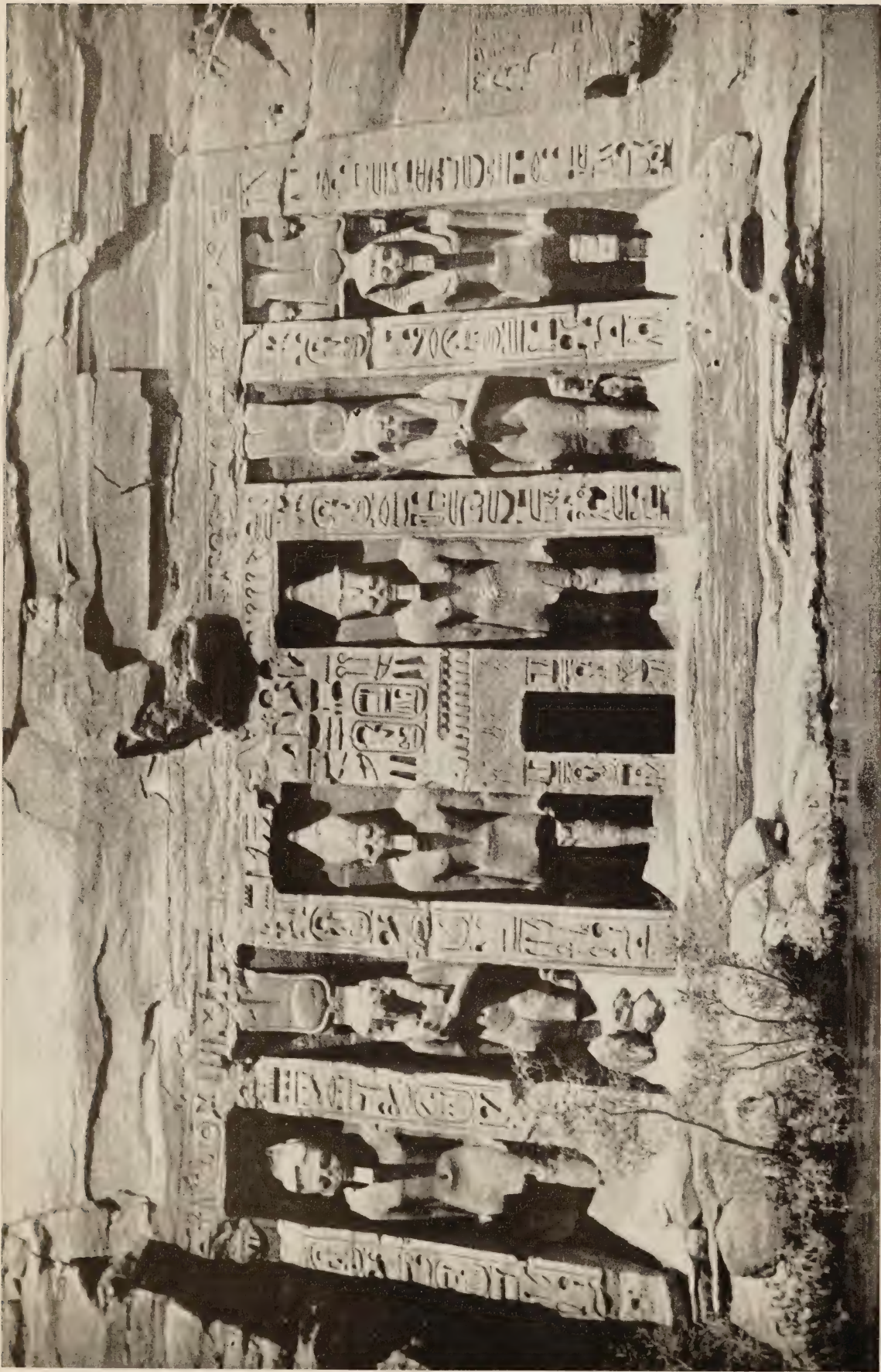
Sneferu built for himself two pyramids, but it was probably in that at Medum that he was buried; the other one dominates the group at Dahshur. The Medum pyramid, 114 feet high, is of a curious shape, as may be seen, having three steps of 70, 20, and 25 feet respectively; it was in a tomb close by that the beautiful statue of the Lady Nefert was found. The official entrusted with the care of this pyramid, we know from inscriptions, was Ka-nefer; it was one of the highest offices of the realm.



Photo by Ewing Galloway.

FIGURES OF RAMESES II. AT THE ENTRANCE TO THE GREAT TEMPLE AT ABU-SIMBEL

The wonderful rock-temple at Abu-Simbel was built by Rameses II., and the four colossal statues flanking the doorway, of which two are shown in this photograph, represent that monarch. Although officially dedicated to Ra-Harmakhis, the Rising Sun, the nature of the mural sculptures within leaves little doubt that it was intended to emphasise the worship of the living Pharaoh as a god, a policy resembling that of the Roman Emperor Augustus at a later date. And now the drifting desert sands threaten to smother this great monument of the ancient world, in spite of many precautions taken to arrest it.



SMALLER NORTHERN TEMPLE AT ABU-SIMBEL DEDICATED TO HATHOR AND NEFERTARI

To the north of the Great Temple of Abu-Simbel is a smaller one, dedicated to Hathor, in which Nefertari, wife of Ramesses, plays the same part in relation to the gods as her husband in the larger temple. The façade, here illustrated, is made even more to resemble a pylon, and the 33-foot figures standing in niches, three on either side of the door, represent Ramesses and Nefertari. As before, there are smaller figures of princes and princesses, while on the buttresses between are dedicatory inscriptions. This façade is 90 feet long and 40 feet high, but the cornice which once surmounted it has fallen. Within there is only one hypostyle hall, instead of the two in the other temple, and six Hathor-headed columns.



GREAT HALL OF THE TEMPLE LEADING TO THE INNER HALL AND SANCTUARY

Immediately within the doorway of the Temple of Abu-Simbel is the great hypostyle hall, corresponding to the open forecourt of an ordinary temple, even as the doorway, with its colossi, represents the pylon. The hall is 58 feet long by 54 feet broad, and is supported by eight pillars 30 feet high, against the inner faces of which stand Osiris-figures of the king between 17 and 18 feet high. The ceiling of the nave so formed is decorated with flying vultures, and on the walls are painted historical scenes, representing in particular Rameses' great victory over the Hittites at Kadesh.



FAÇADE OF THE GREAT TEMPLE OF ABU-SIMBEL, HEWN FROM THE LIVING ROCK

The colossal sandstone figures of Rameses II., one with the rock of the cliff, are 65 feet high, and on either side of each, and between their legs, are smaller figures representing various members of the royal household. The statue between the legs of the second colossus from the left represents his son Amenherkhepeshef, while his wife Nefertari stands on the right. To the left of the door is a falcon, above the lintel a relief of Ra-Harmakhis.

The second pyramid, that of Chephren, has sides 706 feet 3 inches in length, and its original height was 472 feet. It was cased with a fine outer coating, granite below and limestone above, which has now totally disappeared except near the top. It has two entrances, one some distance up the north face, and the other at the ground level. Both descend at an angle for 100 feet, where they turn horizontal. Finally they coalesce and lead into a rock-chamber, discovered by Belzoni in 1816, containing a solid red granite sarcophagus.

The pyramid-temple of this pyramid has been completely excavated, but is in a sadly ruined condition. Its entrance-temple is now known to be the so-called Sphinx Temple which lies below the plateau and has been cleared and visited by tourists for many years. The Sphinx itself is part of the arrangements of this pyramid. It is a vast piece of natural rock carved in the form of a lion, with the head of King Chephren, and lies on the right of the covered way as one goes up from the entrance-temple to the pyramid-temple.

The third pyramid, that of Mycerinus, was 215 feet high, and had a side of 346 feet 2 inches. Part of the granite casing which covered the lower part of it still remains. Several attempts to enter it were made in the early nineteenth century, and it was eventually opened by Colonel Howard Vyse. The entrance is in the north side, 13 feet from the base. A sloping passage leads down to a burial chamber where was found part of a wooden coffin, shown by its inscription to be that of Mycerinus, and now in the British Museum. From this chamber another passage leads to a farther chamber, in which was found a magnificent basalt sarcophagus. This was placed on a ship bound for England, but after touching at Leghorn the vessel disappeared and was never heard of again.

One question still remains to be answered. How did the Egyptians contrive to erect these vast piles of immense blocks of stone? On few subjects has so much nonsense been talked, and there are those who actually believe that steam or electricity was used. In reality the answer is perfectly simple—endless labour, endless patience, and almost endless time. So soon as a king of the fourth dynasty came to the throne practically the whole available labour of the land was conscripted for the con-

struction of his pyramid. In the dry season men were busy cutting the blocks at the quarries. When the floods came rafts were floated up to the mouths of the quarries, and with no more scientific apparatus than ropes, levers, and wooden rollers, the blocks were placed on the rafts. The journey thence to the pyramid site was a simple matter. Here by the same means the blocks were worked off the rafts and up a paved inclined slope or ramp to their position on the pile (see "Wonder Workers," pp. 357-364).

As the height increased a spiral incline was probably left in the masonry of the pyramid itself, up which the blocks were laboriously man-handled by vast gangs of men working day after day, and year after year. Let him who disbelieves this simple explanation spend a week in an excavating camp in Egypt. There he will see stones of the same size being moved by the same old means. When Reisner was working at the third Gizeh pyramid thirty of his Arab workmen moved from off the temple area in a few weeks over 400 granite blocks fallen from the pyramid casing, and weighing from one to seven tons each, with no other tackle than levers, rollers, ropes, and a couple of improvised trucks. "If there is an order," they said, "we will build a pyramid."

TEMPLES OF THE GODS. XI
THE ROCK TEMPLES AT ABU-SIMBEL

BY MARGARET A. MURRAY

THE ROCK TEMPLES AT ABU-SIMBEL

BY MARGARET A. MURRAY

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THE Great Temple of Abu-Simbel (Ipsambul), on the left bank of the Nile, about forty miles north of Wady Halfa, is hewn out of the solid rock where the river takes a bend and runs eastward. Almost all temples in Egypt are orientated by the river, and the Temple of Abu-Simbel is no exception. The entrance faces due east, so that at sunrise the sunlight strikes along the straight axis of the temple and shines upon the figures in the innermost sanctuary. The temple is dedicated to Ra-Harmakhis, the Rising Sun, and daily at sunrise the Glory of the Lord illumines the darkness of the shrine.

Four gigantic statues are at the entrance, two on each side, sculptured in the rock. They represent the Pharaoh Rameses II. seated on his throne and wearing all the insignia of royalty; on his head is the striped linen headdress which was worn only by kings, and above that is the double diadem of Egypt, while the royal serpent is on his brow. The figures sit with the hands on the knees, gazing out to the sunrise with that calm consciousness of power which is one of the attributes of the divine.

At each side of each colossus is a female figure, representing the queen and some of the princesses; these do not reach to the knees of the seated statues, though elsewhere they would be considered colossal; as it is, they are completely dwarfed by the majestic proportions of the figures by which they stand. Between the legs of each colossus is another small figure, a son or daughter of the king. The colossus immediately to the south

of the doorway is partially destroyed owing to the disintegration of the stone itself.

The plan of this great temple has a cruciform effect, which is probably accidental, and is due to the lateral chambers on each side. To enter the temple one must pass between the two middle colossi and through a square-headed doorway. Above this entrance, raised high so that his head is on a level with the heads of the colossi, is a statue of Ra-Harmakhis, the sun-god himself. "At early morning the sun's rays strike full upon it, so that the figure appears to be stepping forward to greet the sunrise."

The doorway leads directly into the Great Hall. Four square pillars support the roof, and in front of each pillar is a gigantic figure of the king in the attitude, and bearing the insignia, of the god Osiris. The sides and backs of the pillars are covered with representations of the Pharaoh in the presence of various gods and goddesses.

The effect of these enormous figures is very impressive; seen as they are in the faint light which filters through the narrow doorway, they tower above the head of the spectator; dimly visible in the darkness, they gaze in silence for ever across the hall in which they stand sentinel.

A door at the west end of the Great Hall gives access into a small pillared hall; then, still going due west, through a small vestibule, the innermost shrine is reached. Four statues sit with their backs to the west wall, facing towards the daybreak, and on them the rays of the rising sun fall when "the majesty of Ra rises in the eastern horizon" and the earth is flooded with light.

The lateral chambers on the north and south of the temple are entered from the Great Hall. All these chambers are sculptured with reliefs which indicate that these inner rooms were for the cult of the divine king. To the ancient Egyptian the Pharaoh was god incarnate, in him dwelt the spirit of the living god, and he was worshipped in all parts of Egypt as a god. But it is not often that the sculptures show this belief so clearly as at Abu-Simbel, for here in these inner chambers the king is represented among the gods and at the same time worshipping his own divinity.

The walls of the whole temple are covered with sculptures, and in the Great Hall is the account of the Battle of Kadesh.

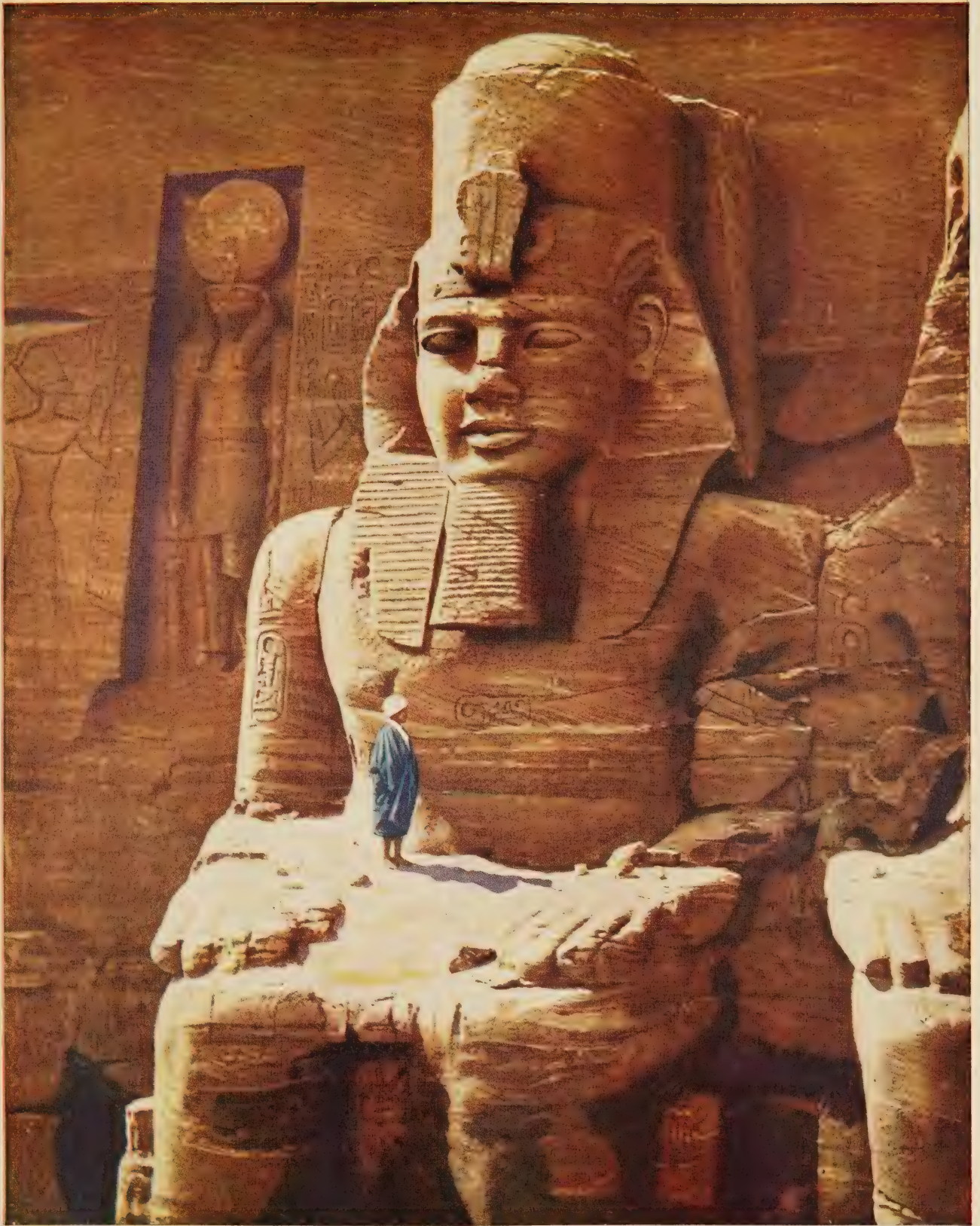


Photo specially coloured for "Wonders of the Past."

COLOSSAL SEATED FIGURE OF RAMESES II. AT ABU-SIMBEL

Nothing could illustrate better than this photograph the serene beauty of the colossi in front of the temple at Abu-Simbel; and such is the accuracy of their modelling that without the figure on the lap of the statue it would be impossible to realize its immensity. This particular one, on the right of the doorway, has been restored by Seti II. On breast and arm may be seen the royal name of Ramesses II. in its "cartouche"; but the most interesting inscriptions are those of the Greek and Carian mercenaries of Psammetichus II. to be found on the left-hand colossi.

It was the one dashing exploit of Rameses II.'s life, and he caused it to be recorded on every temple which he built or restored. The record is always elucidated with illustrations, and the poem of the court-poet Penta-ur invariably accompanies it. Though Rameses undoubtedly acted with conspicuous gallantry, and at great personal risk turned defeat into victory, it is quite evident, even from his own account, that the happy result was due as much to good luck as to good management.

In his campaign in Syria Rameses had reached as far north as the Orontes, and proposed to take the city of Kadesh. Deceived by the reports of Hittite spies, who claimed to be deserters from the Hittite army, Rameses pushed on to Kadesh with only his bodyguard and one out of the four divisions of his army. He marched up the west side of the town, and proceeded to encamp, while the Hittite army slipped round the eastern side of "the deceitful city of Kadesh," fell upon the army of Rameses, which was totally unprepared and at a distance from its supports, and put the second division to flight. The routed division fled in all directions; the greater number in the wake of the king. They burst panic-stricken into the camp and communicated their terror to the first division, who also fled. The Hittite chariotry came up in hot pursuit, and seeing that the king and the royal bodyguard had remained, they wheeled round with a wide circling movement to kill or capture the now dangerously imperilled Pharaoh.

This was Rameses' great moment, and Penta-ur describes it, omitting with poetic licence the fact that the bodyguard also stood their ground: "There was never a chief with me, never a charioteer, not an officer of troops nor a horseman; the infantry abandoned me, the chariots fled away, not one of them remained to fight at my side." Then he called upon the god Ammon, who heard and came to the rescue, "striking on the right hand, seizing on the left hand, like Baal in wrath."

Encouraged by this divine help, Rameses charged into the midst of the enemy, finally driving them across the river. "I came up to them quicker than fire. I was carried among them. I was like Mentu, god of war. I gave to them the taste of my hand in the passing of an instant. I was a devouring flame among them, slaying them as they stood." The Hittites in their

turn were seized with panic and fled, crying: "This is no mortal man. It is Sutekh, great of might. It is Baal in the flesh." Egyptian reinforcements came up before the Hittites had time to rally from the sudden onslaught, and the victory was complete. Many of the Hittites fell into the river and were drowned by the overturning of the chariots. The unfortunate Prince of Aleppo, an ally of the Hittites, was dragged half-drowned out of the water by his faithful followers, who rendered first aid by holding him up by the heels in order to get rid of the water he had swallowed.

This incident struck the sense of humour of the ancient Egyptians, and the prince is always represented in that ridiculous position. The sense of humour has altered very little in the course of centuries, and the modern tourist laughs just as heartily at the predicament of the Prince of Aleppo as the ancient Egyptian did.



CLOSER VIEW OF THE HEADS OF THE COLOSSI OUTSIDE THE TEMPLE AT ABU-SIMBEL

This view from the north shows the two colossi on the left of the doorway, and the head of a third; the centre one has been badly damaged, the upper part of the body now lying on the ground. The cornice of the temple is formed by twenty-two dog-headed apes, above which is a frieze with an inscription dedicating the work to Ra-Harmakhis (Ra-Heru-Khuti) and Ammon. Ptah of Memphis is also associated with these two, so that the principal gods of all Egypt were brought together and honoured.

THE WONDER CITIES. IX
UR OF THE CHALDEES

BY C. J. GADD, B.A.

UR OF THE CHALDEES

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Department of Egyptian and Assyrian Antiquities, British Museum

THIS Chapter of our work must be more a description of a series of recent excavations than an attempt at the pictorial restoration of a famous city of antiquity, for the exploration of the sites of Ur, Eridu, and Tell el-Obeid is still far from complete, and discoveries of high importance there may yet engage a future chronicler. But the subject is a fascinating one on account of its Biblical interest and the ancient fame of the Temple of the Moon-god. The archæologists whose names are identified with the work of excavation there, Dr. H. R. Hall, Mr. R. Campbell Thompson, and Mr. C. Leonard Woolley, are all contributors to WONDERS OF THE PAST.—EDITOR.

ABOUT twelve miles south-west of the modern town of Nasrieh (or Nasiriyeh), in lower Mesopotamia, the place at which the Euphrates is joined by the stream called the Shatt-el-Hai, there rises from the flat desert a tall mound surrounded by subsidiary hills, larger near the middle of the site and lower towards the circumference. To the first-mentioned mound, which lies rather towards the western side, the Arabs have given the name of Muqayyar, or "Pitchy," because of the bitumen which they have been accustomed to extract from between the bricks of ancient ruined buildings which stand upon it. But this desolate mass of hills—which now boasts a railway station in its neighbourhood—was for a period of more than three thousand years known by a far more celebrated name than this, as Ur. The name of Ur, however, had died with the city, and it was not until the spade of the modern excavator had broken into its secrets that the shapeless and weather-beaten hill in a desert land was revealed as the birthplace of Abraham. An Italian

traveller, who wandered over India, Persia, and Turkey in the seventeenth century, had visited Muqayyar, and sent home from there an inscribed brick, which must have been one of the first Babylonian antiquities to reach Europe. In those days, however, the cuneiform writing upon it was a puzzle that none could solve, and the world remained none the wiser for the explorer's trouble. Things were very different when the next and successful attempt was made, long after, to learn the nature of that ancient city whose crumbling had left so conspicuous a landmark on the face of the desert.

In 1854, when Mr. J. E. Taylor, the British vice-consul at Basra, was sent by the British Museum to dig at Muqayyar, scholars had succeeded in achieving one of the most brilliant triumphs of the human intellect, and could now read the wedge-writing which had so lately been nothing but a cryptogram, the key of which had been lost for nearly two thousand years. So when Taylor, in digging at the corners of the stage-tower, which is still the most prominent feature of the mound, came upon four barrel-shaped clay cylinders (now to be seen in the British Museum), each covered with many lines of incised cuneiform writing, it was only necessary for these to be deciphered and the secret was out—this desert mound was none other than the famous city of "Ur of the Chaldees."

What is more, the selfsame cylinders proved to have been written by the command of Nabonidus, the last king of Babylon, who reigned 555-538 B.C., in order to commemorate his rebuilding of the stage-tower, and they ended with a prayer to the moon-god on behalf of Belshazzar, well known from the Book of Daniel. What Taylor had found at Muqayyar was, in fact, the great Temple of Nannar, or Sin, the moon-god, of which the stage-tower was the feature least obscured by the crumbling of ages. His work had soon to be interrupted, however, and it was not until the year 1919 that it was resumed, again for the British Museum, but this time under the direction of Dr. H. R. Hall.

Progress could now be made in recovering something of the buildings which decay and sandstorms had so completely buried, and the future history of excavating Ur will be that of retracing ever more and more the great Moon Temple, and the city which surrounded it. The task was resumed during the winter of 1922-



Photo by H. R. Hall.

A STREET MORE THAN FOUR THOUSAND YEARS OLD IN SUMERIAN ERIDU

In 1919 excavations were conducted on another important site of southern Babylonia—Abu Shahrên, the ancient Eridu, accounted among the Sumerians the oldest and most sacred of their cities. It contained a particularly holy shrine, that of Ea, god of the primeval watery abyss, but was deserted comparatively early in Semitic times, to which fact we owe the preservation of the wealth of remains it has yielded. Private houses were also discovered, and streets such as that above, which dates from before 2300 B.C.



Photo by H. R. Hall.

THE MOUND MUQAYYAR WHERE ONCE WAS UR OF THE CHALDEES

Ur was a city indeed, for it was not only inhabited, but was apparently a centre of religious and social importance, with no appreciable break from the remotest times of pre-history to close on the beginning of the Christian era. Unfortunately this very length of occupation tends to obscure the remains of its earliest life. Above is the present appearance of the site, the mound marking the position of the ziggurat of the Temple of the Moon-god.

23 by a joint British and American expedition, under the leadership of Mr. C. L. Woolley, and the form of the temple is being steadily unearthed.

So far, the most prominent features are as follows: The "ziggurat," or stage-tower, consisting of a number of huge "steps" or storeys, each smaller than the one beneath, is better preserved at Ur than at any other site in Babylonia. Two of the "steps" still remain, and the structure is rectangular, not square, as is usual. The upper stage is set back several feet from the lower, which is buttressed all round, and is set with its corners towards the cardinal points. Dr. Hall, in 1919, cleared the whole south-east face of this tower, and thus gave the first adequate impression of the majestic proportions of this once "mountain-high" erection, which was called in the Sumerian language "The House of the King of Right Counsel"—that is, of Nannar, the moon-god.

Next, there is the great wall which surrounded the whole of the temple precincts. Only a small fragment of this has yet been excavated, but this may be taken as typical of the whole. It was of great thickness; casemates or cellars were made in the middle of it, and four of these have been discovered. Within the space enclosed by the wall existed a whole complex of buildings, sacred and secular, most of which still await excavation. Hitherto there have appeared a square building on the western side of the precinct and another large chapel, or group of chambers, found during the work of 1922-23. The identity of the former is somewhat doubtful, but the latter is seen to be that portion of the temple which was called E-nun-makh, and was sacred to the goddess Nin-gal, the wife of the moon-god. Here have been recovered numerous inscriptions, commemorating the pious works of various kings who restored this part of the temple between about 2000 B.C. and 550 B.C., and it was from here, too, that came some exquisite gold work of the Persian period, necklaces of gold foil, and a golden statuette. These buildings, together with a few portions of streets, which Dr. Hall uncovered in 1919, are all that is yet free from the ruin which has overwhelmed temple and city.

Ur itself cannot be considered apart from some of the places in its immediate neighbourhood where the modern digger has

also been busy. Fourteen miles south-west of Ur there can be seen from the ziggurat the weather-worn fragment of a similar tower, crowning a mound which stands in the midst of a completely flat and waterless desert; so dry, indeed, that work can be carried on there only by the laborious means of bringing every drop of water from the railway near Ur, fifteen miles away. This desolate site, abandoned now by the fresh-water lagoon which in ancient times flowed about it, is Eridu, which the Sumerians deemed the most primeval, and certainly the most sacred, of all their cities. They fabled that it was the first to come into being at the Creation, when it was assigned to the god Enki, or Ea, the god of the great deep of waters, the patron of wisdom and of all the healing arts.

The first two of the ten patriarch-kings, who reigned for thousands of years each, according to the tradition, were lords of Eridu, and another ancient hero of the town was Adapa, whose boat was capsized by the south wind while he was out fishing upon the lagoon, and who thereupon, in anger for his ducking, caught the south wind and broke one of its wings, for which violence he had to answer to the gods.

In 1855 Mr. J. E. Taylor, who, as already stated, was the first explorer of Ur, made a short stay at Abu Shahrên (the modern name of this site), and found that the first stage of the ziggurat had been reached by a straight staircase, seventy feet long and fifteen feet wide, which had been originally built of marble slabs imported from abroad, since no such stone is found near the place. Small objects of stone and metal and a variety of bricks, inscribed and plain, which now form our best guide to the history of Eridu, also rewarded this first summary investigation. But more precise knowledge has accrued recently.

In 1918 Mr. R. Campbell Thompson, in the face of great difficulties, carried out excavations at Abu Shahrên, and finally established not only the identity of the place as the age-old Eridu, but a good deal of the history of this city from remote prehistoric times down to the days when Sumerian had already yielded to Semite in Babylonia. The tradition of its extreme antiquity has been in no sense belied by the inquisition of the spade, for the copious stores of greenish-grey potsherds, decorated with designs of plants and animals painted in black, are



Photos by H. R. Hall.



COMPLACENT TEMPLE OFFICIAL SET FREE FROM THE RUINS OF TELL EL-OBEID

Tell el-Obeid gave us another delightful find when Dr. Hall unearched the stone figure of which two views are given above. From an inscription on it we learn that it represents a certain Kur-lil, "Keeper of the granary of the Temple of Erech." The almost bird-like face is typically Sumerian, and its engaging expression creates a feeling of intimacy which the austerity of Egyptian art could never do; one glance, and the "mystery" of the Sumerians is gone! It dates from about 3000 B.C.



Photo by H. R. Hall.

CLEARED FACE OF THE TEMPLE OF NANNAR THE MOON-GOD AT UR

Ê-Kharsag, Temple of Nannar, or Sin, the moon-god, was the central shrine at Ur, and in 1919 Dr. H. R. Hall cleared this, the southeastern face of its ziggurat. The tower was found to be very well preserved, two of the superimposed stages or steps of which such buildings were composed being traceable. Unlike most other temple-towers in Babylonia, however, it was found to be rectangular, instead of square; but the corners, as usual, were built to face the cardinal points, and the lower stage was well buttressed.



Photo by permission of the Trustees of the British Museum.

MASSIVE BRICK FOUNDATIONS OF A TEMPLE IN THE ANCIENT CITY OF UR

The excavation of sites like Ur cannot be expected to yield buildings in such a state of completeness as Pompeii, for instance; such well-marked foundations as those above are a gratifying find. The view is taken from the east, and shows the south-eastern end of a temple which went to make up the complex of religious buildings attached to the ziggurat, or temple tower, seen in the background; note the enormous thickness of the walls. It is to this ziggurat and its extensive precincts that the excavations have been mainly devoted, although much digging remains to be done before the whole is laid bare.

almost identical with those found in the deepest levels of Susa and Musyan by French archaeologists.

Eridu lay on the edge of a lagoon formed by an earlier course of the Euphrates, and, being near to a low ridge of rough limestone, had the luxury, almost unknown in Babylonia, of stone bastions to strengthen its walls. While these conditions held it was a flourishing and cultured city, excelling in all the arts, as Mr. Thompson found evidence to prove. Some small remains of alabaster carvings in relief are enough to show how precious were the works denied to us by time and vandalism. But the great river, fickle in its course then as to-day, deserted the place, and Eridu literally died of thirst.

The great king Hammurabi, who reigned about 1950 B.C., was the last to restore E-apsu, the "House of the Deep," where dwelt the god Ea, and after this the city was more and more deserted, though its great sanctity made it still a favoured burial-place for the bodies of those that came after. To-day it is a scene of the utmost desolation, where the scarred and shapeless wreck of the stage-tower is but the highest point of a worn and eroded heap which has spread out its débris fanwise upon the face of the desert. Stone and obsidian implements, potsherds, a curious kind of pottery sickles or half-moons, and many minor antiquities were thus obtained by Mr. Thompson and by Dr. Hall, who also worked upon this site for a month in 1919 and found remains of early Sumerian houses of crude brick, plastered over with a hard stucco painted in horizontal lines of red and white.

One other place in the vicinity of Ur deserves mention, not so much for its own importance, as in the case of Eridu, but because of the remarkable discoveries that have been made there. In May, 1919, Dr. Hall had concluded his work at Abu Shahrên (Eridu), and determined to investigate a small mound called Tell-el-Obeid, lying four miles west of Ur. This was found to consist of a small building of bricks, which betrayed by their shape an extremely early date. A staircase of limestone blocks had once led to the top of it, but the great interest of the site lay in some remarkable metal-work which was found within the ruins. Some later king had laid down a platform of unburnt bricks, and had hidden away under this a number of objects which were either distasteful to him or for which he had no further use.

But what this monarch so disdained that he cast them thus upon the rubbish-heap have survived to be the wonder of four thousand years after.

There were four large lion-heads and one smaller, all cast in copper and subsequently filled in with bitumen, mixed with straw and clay, to strengthen the metal mask. The heads thus formed were fastened by a mortice and tenon joint on to the body of the animal, which was of wood, with copper plates riveted over. The bodies no longer remain, but the heads have now been restored to good condition, and make a brave show, with their shaggy manes, which still partly survive in the copper castings, their protruding tongues of red jasper, their teeth of shell, and their eyes made of three perfectly-fitting pieces, the pupil in red jasper, the iris in shell, and the rims in dark blue schist.

Besides the lions there were two heads of bulls, and some of birds, and two panther-heads, all in the same admirable work. Above all, there were the remains of a very large copper relief of a lion-headed eagle with his wings outspread in the air, and each claw grasping the hindquarters of stags, which stood back to back. This style of device was famous in early Babylonian art already. It has always been found associated with the city of Lagash, the eagle being the "Storm-bird," or symbol of Ningirsu, who was the local god of that city. Whether the occurrence of this relief at el-Obeid points to an early dominance of Lagash over Ur it is too soon to say; if so, other evidence of it may be found as the excavation proceeds.

This once splendid work was so damaged and decayed that it could be brought away only with the greatest difficulty, and whether it can be satisfactorily restored is doubtful. At least there survives from it a fine stag's head with wonderful branching antlers, all in copper like the rest. But even this was not all. There remained a small bull's horn of pure gold filled with bitumen, one complete and one fragmentary stone figure of a squatting man in the familiar Sumerian style, and some mud pillars with their surface completely covered by tesserae, square or diamond-shaped, of coloured stone and mother-of-pearl. The figures bore a very archaic inscription which tells us that they represent one Kur-lil, who held the office of "keeper of the granary" in the city of Erech.



Photos by permission of the Trustees of the British Museum.

JEWELRY FOUND AT UR FROM THE AGES OF NEBUCHADREZZAR AND CYRUS

These exquisitely worked pieces of jewelry were found under a pavement in the Temple of the Moon-god at Ur. 1. Gold figure of a ram. 2. Golden bracelet. 3 and 4. Necklaces of gold, carnelian, and lapis-lazuli beads; in the upper instance wonderfully realistic golden leaves. 5 and 6. Golden pendants for a necklace. The jewelry discovered dates some from the seventh and sixth centuries B.C., and some from Persian times, during both of which periods the temple was extensively restored or rebuilt.



Photo by H. R. Hall.

UR'S TEMPLE TO THE GOD OF THE MOON AS THE EXCAVATORS FOUND IT

There was, no doubt, at Ur a shrine of some kind to the moon-god, patron deity of the city, from the very earliest times, and even the existing temple, portions of which are shown above in the process of excavation, is computed to date from before 3000 B.C. But it was extensively restored and adorned at various times, notably during the reigns of Ur-Nammu (or Ur-Engur) and his successors, about 2300 B.C. onwards when Ur ruled a Pan-Sumerian Empire, and under that famous builder, Nebuchadrezzar.



Photo by H. R. Hall.

MOSAIC-WORK OVER 5,000 YEARS OLD FROM TELL EL-OBEID, NEAR UR

At Tell el-Obeid, a smaller site some four miles out in the desert west of Ur, was found a remarkable treasure stamped down beneath a pavement of unburnt brick; and among this treasure were the unique pillars of which an example is illustrated above. They constitute the earliest known mosaics, being of hardened mud, with their surface completely covered with small vari-coloured "tesserae"—fragments of mother-of-pearl and different coloured stones. Their date, although uncertain, must be about 3000 B.C.



Photo by permission of the British Museum.

DISCOVERED AT TELL EL-OBEID

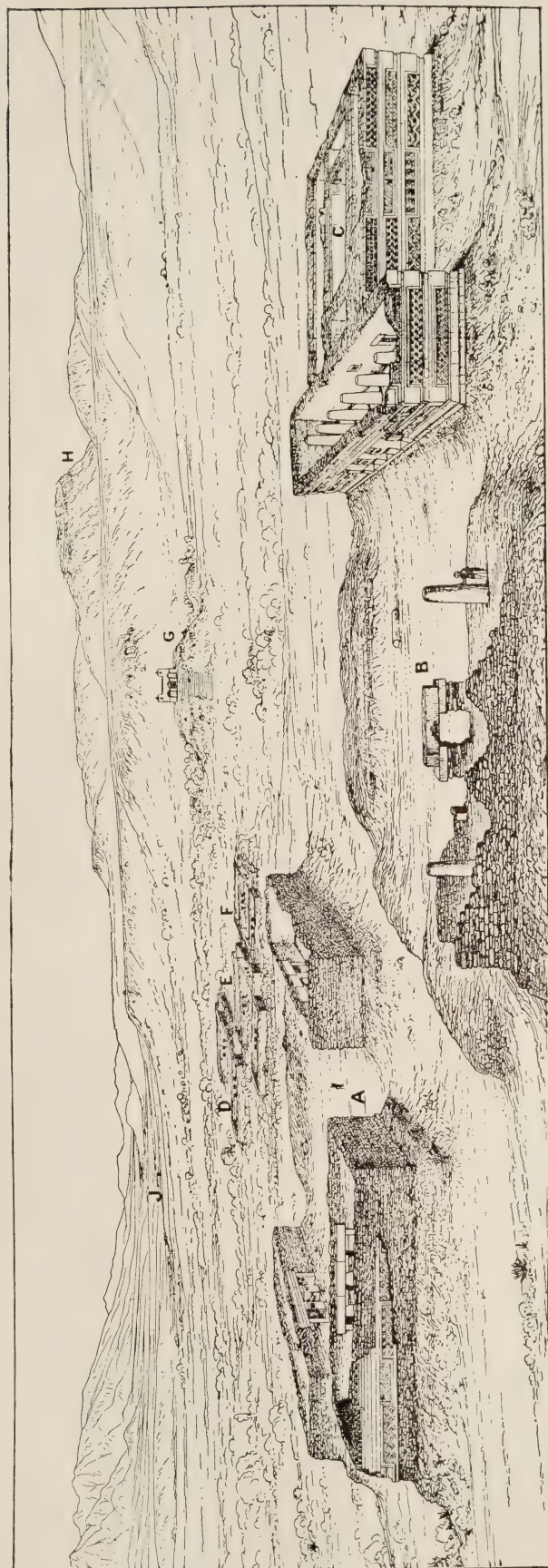
Most wonderful of the hoard from Tell el-Obeid are five copper lion-heads, of which the above is the best example. A mask of the head was first cast and inlaid, red jasper being used for the tongue and pupil of the eye, shell for the teeth and the iris, and blue schist for the rim of the eye; this mask was then filled with bitumen, clay, and straw, and mortised to a wooden body riveted over with copper plates, forming perhaps the supports of a throne.



Photo by permission of the British Museum.

STONE DOOR-SOCKET OF A KING OF UR

In a land where stone was "more precious than much fine gold," stone door-sockets such as this were religiously preserved. It comes from Nippur, and the inscription (c. 2300 B.C.) reads: "For Ninlil, his Lady, Ur-Nammu, the mighty man, King of Ur, King of Sumer and Akkad, has built her beloved storehouse." Ninlil was a goddess, wife of Enlil.



From plan by Prof. W. H. Holmes, reproduced from the "Anthropological Series," by courtesy of the authorities of the Field Columbian Museum, Chicago, U. S. A.

WONDER CITY OF THE WESTERN HEMISPHERE—SKETCH-PLAN OF PART OF MOUNTAIN-SURROUNDED MITLA

While less extensive than the remains of Monte Alban or San Juan Teotihuacan, the ruined structures of Mitla, thirty miles east of Oaxaca, are better preserved than those of any other group in Mexico proper. In the above sketch-plan we are looking west. A, B, C, group of the Columns (A. Quadrangle of the Subterranean Galleries, with the largest lintel stone in Mitla; B. Quadrangle of the Columns; C. Quadrangle of the Grecques, or Mosais). D, E, F. Arroyo Group of three quadrangles, containing lintel panels painted in red on a dark grey ground; the gully, or watercourse (arroyo) passing under the east walls and threatening their destruction. G. Adobe Group, on the eastern mound of which is a small Christian chapel. H. Fortified Hill, the summit of which is surrounded by a massive wall of hewn stone. I. The Rio Mitla. The original plan shows, to the left, the South Side Group, of two quadrangles, with a massive mound embedded in adobe; and to the right, the Group of the Catholic Establishment, part of which has been built into a church.

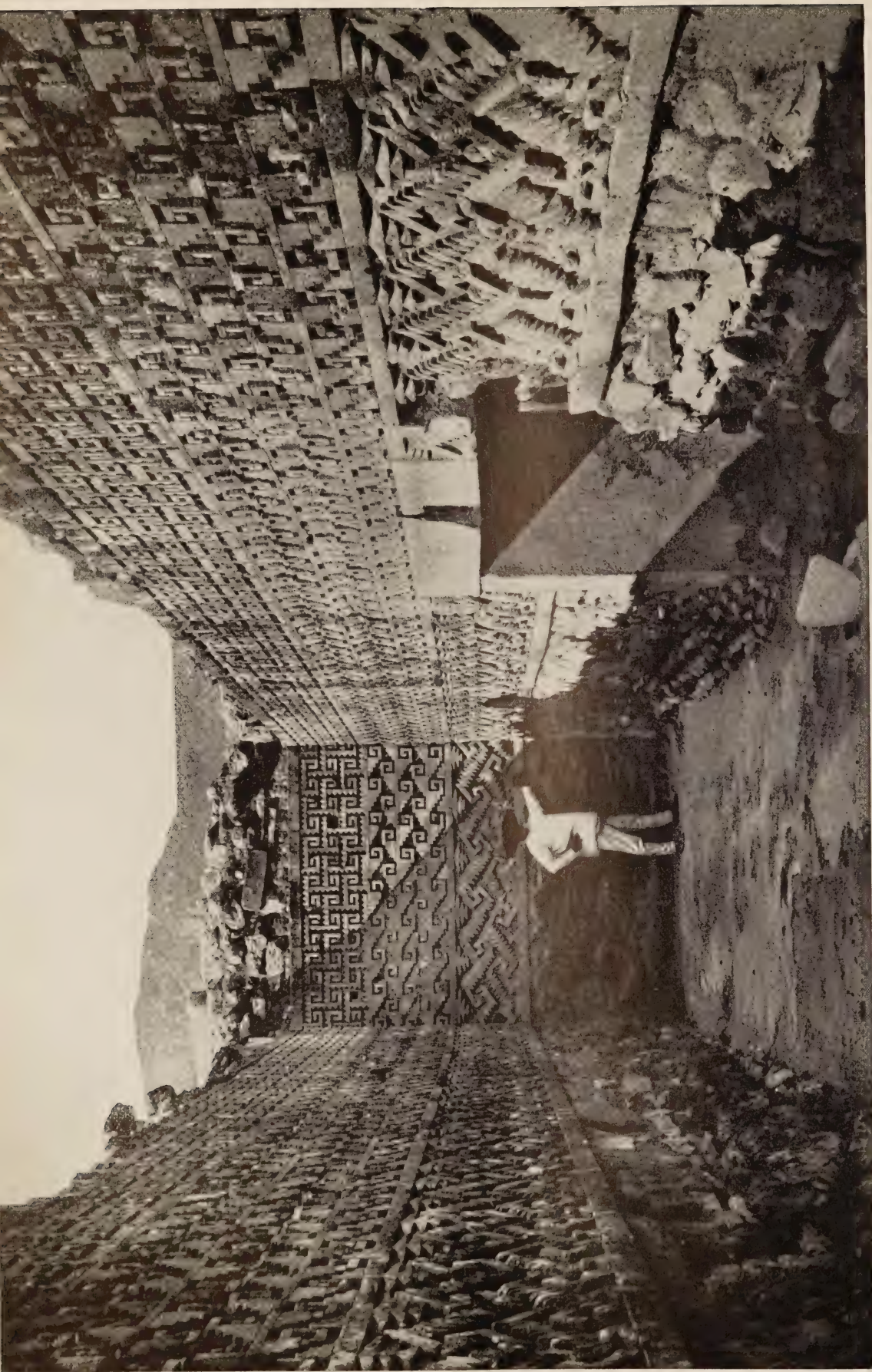


Photo by C. B. Waite.

BEST EXTANT EXAMPLE OF THE MOSAIC DECORATION OF AN EARLY ZAPOTEC INTERIOR

This is the west chamber of the interior court of the "Palace of the Pillars." The dado is of masonry, once smooth-finished in plaster. Above it are three bands of geometric mosaic bordered at top and bottom by narrow courses of hewn stone. The doorway on the right leads into the interior court. Wooden beams supported the roof. The outer wall is about 5 feet thick, that next the court from 3 to 4 1/2 feet thick. The width of the chamber is 8 feet. Entirely geometric, the mosaic panels display much ingenuity in the varied use of limited motives. Mita or Mictlan is the Mexican name for the sacred city called by the Zapotecs Lyobaa, "the place of the dead," and, like Teotihuacan, was a place of pilgrimage and burial.



Photo by Hugo Brehme.

EMBLEM OF EARLY MEXICAN MYTHOLOGY AT SAN JUAN TEOTIHUACAN

The ancient Mexicans worshipped the sun, regarded the moon as his wife, and the stars as his sisters. This vigorous example of sculpture at San Juan Teotihuacan shows the "Feathered snake," which is represented alternately with the "Water snake." The "Feathered snake" is the emblem of Quetzalcoatl, the god of the air, and thus of breath and of life. The temple here was found by the Aztecs, and was visited periodically by the great Montezuma as an act of pilgrimage.



Photo by Underwood Press Service.

HALL THAT GIVES A NAME TO THE "PALACE OF THE PILLARS" AT MITLA

This hall, entered through doorless doorways in the façade, is 23 feet wide by 125 feet long. The six columns are all about 11 feet in height, about 3 feet in diameter near the deeply-planted base, and taper slightly toward the top. The roof, like part of the top courses of the walls, is missing. Save where they are interrupted by doorways, panels of mosaic surround the building. A single opening gives access to the closed Quadrangle of the Grecques, which has four small chambers around it. Round pillars are extremely rare in aboriginal American architecture.

Many of the remarkable works of art mentioned above were safely brought to England and reconstituted, and can now be seen exhibited in the Babylonian Room at the British Museum. They give a very high impression of the artistic capabilities of the ancient Sumerians who fashioned them more than 3,000 years before Christ.

The city of Ur had a long history, from the earliest times onward, and though much is still waiting for the spade to bring back to light, there is also much to be gained from cuneiform records already extant. Babylonian scribes, who kept careful account of all kings and dynasties since "before the Flood"—the expression is their own—have handed down that three dynasties ruled in Ur and subdued the whole land. Of the first two we have as yet no trace beyond their formal record in the list of kings, but of the third dynasty we are much better informed. It was founded by Ur-Nammu (or, as he is often called, Ur-Engur) and continued by Shulgi (Dungi), Bur-Sin I., Gimil-Sin, and Ibi-Sin, in the order named.

Strangely enough, we are not so well informed of the warlike and political acts of these great kings as of the internal condition of the lands over which they ruled. Many thousands of inscribed tablets, dealing with every possible kind of administrative, commercial, and legal matter, have come down to us from this time (about 2300-2000 B.C.), and combine to present the picture of a country prospering almost more than at any other period of its history. Laws were administered, husbandry flourished, cattle-raising, manufactures, and trade were actively pursued, royal posts traversed Babylonia and Elam, shipping and caravans exchanged products in every direction, and the arts of peace were in full flower.

But danger was always threatening from the Semitic tribes who constantly wandered down the Euphrates, and Elam on the east was a restless and chafing vassal. The end came at last from that side. Ibi-Sin was carried away captive by the hill-men, and doubtless much of the damage to the older objects found at Ur was inflicted at this time, for the Elamites were unsparing enemies. These were the greatest days that the city ever saw, but for many centuries after it lived on with hardly diminished importance. The circumstance by which it is chiefly re-

membered, its claim to be the birthplace of Abraham, belongs to a rather later time, for Abraham was already in Canaan when there was fought the battle of the "four kings with five" (Genesis xiv.).

Best known of the four kings is "Amraphel, King of Shinar," who can hardly be other than the great Hammurabi of Babylon, who reigned in the years about 1950 B.C. Though we know little specifically of Ur under the rule of this wise and powerful king, we cannot doubt that it shared in the benefits of a policy which was justified by success abroad and good government at home, fostered by the attention to detail which is so amply attested by the royal correspondence and code of laws. From the distractions which followed in later times, owing to the continued infiltration of ever new tribes attracted by the fabulous richness of the land, Ur was comparatively free, being a fenced city, and thereby something of a self-contained unity, which carried on many of the old traditions in the midst of a disturbed countryside.

To the latest days of the Assyrian empire this pre-eminence still endured, and when the great conquerors marched south it was to chastise the turbulent Chaldæans and Aramæans rather than the great ancient cities which held aloof from the broils and tumults which surrounded them. We do not know precisely when Ur finally fell into decay. It yields numerous traces of occupation during the Persian period of the Achæmenids, but perhaps it did not long survive the conquest of Babylon by Alexander the Great. For, after the death of Alexander, his general and successor, Seleucus I., removed the capital from Babylon to Seleucia, from the Euphrates to the Tigris, and, with the cessation of traffic on the river which flowed past it, the ancient Babylonian city, which had already become "Ur of the Chaldees," was at last ripe for death and the desert.



MEXICAN "POEM IN STONE": PYRAMID TEMPLE OF THE FLOWER-GODDESS, XOCHIQUETZAL

Xochicalco ("the House of Flowers") is one of the few extant monumental structures in the Valley of Mexico. This superb temple of the Toltec period stands on a rocky eminence a few miles from the capital. The temple mound is 75 feet long and 66 feet broad, of hewn granite, put together by the skilful builders without cement. It was approached on the western side by a flight of steps. The whole of the exterior was faced with stone, richly decorated with a design of colossal feathered serpents, emblems of Quetzalcoatl, the coils of which enclose human figures and hieroglyphs.

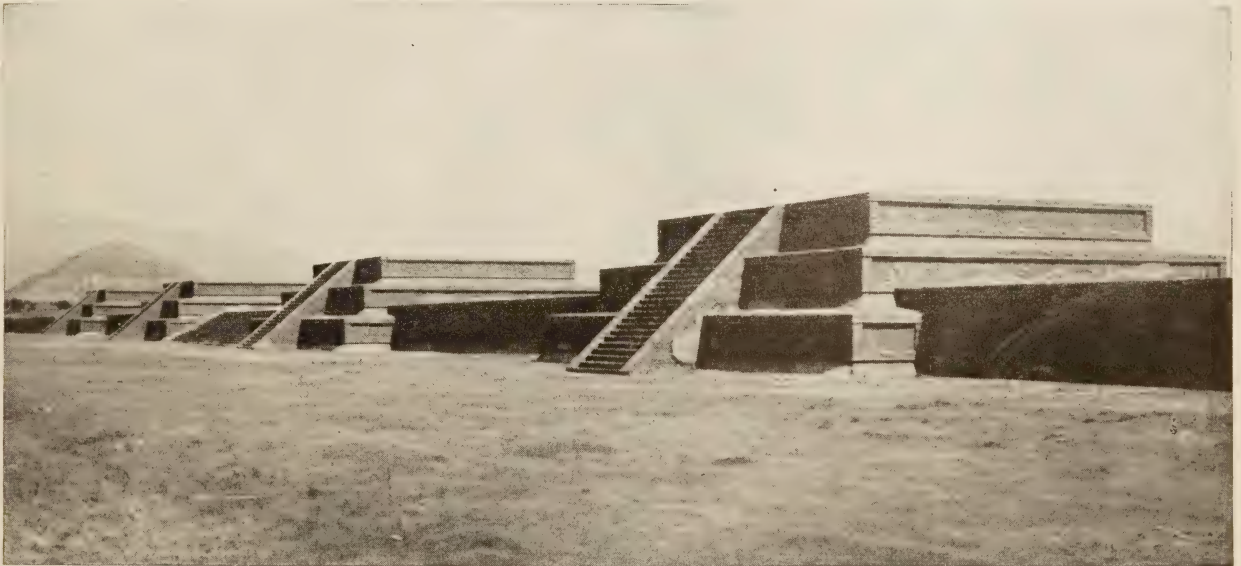
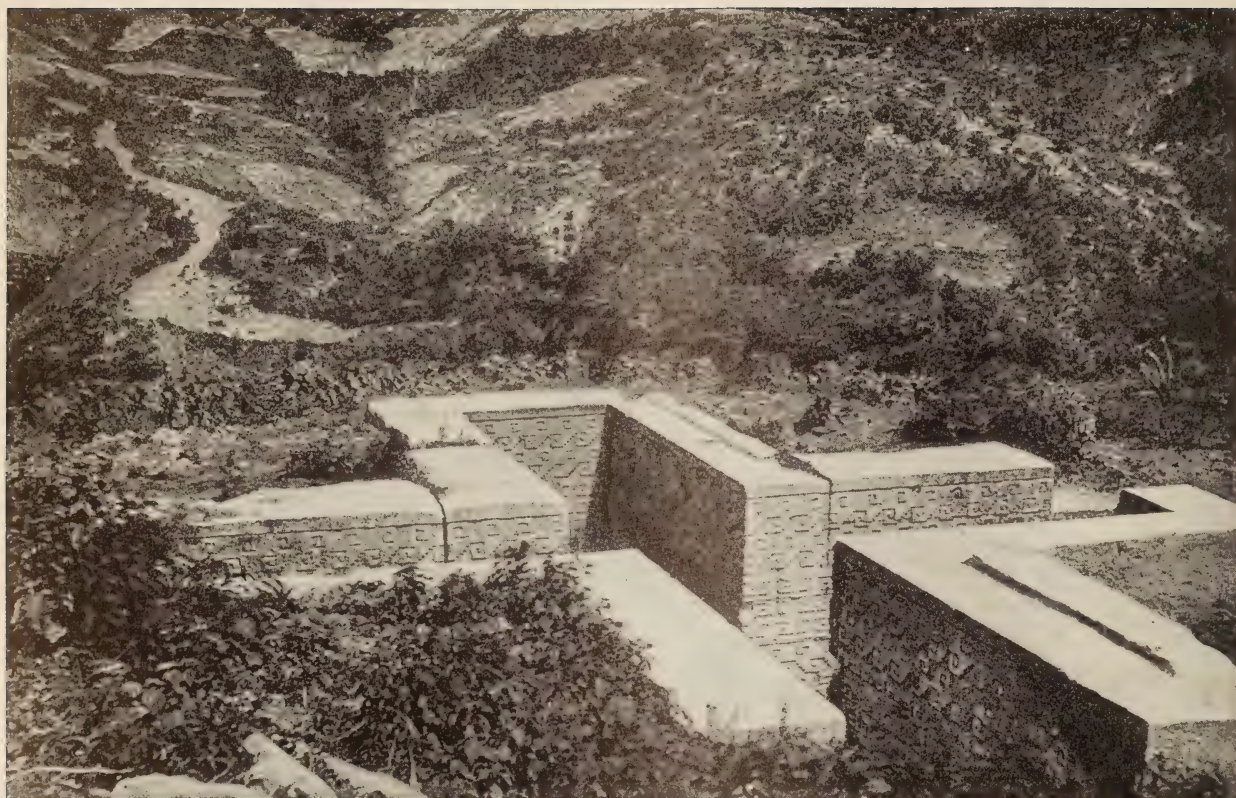


Photo by Hugo Brehme.

VIEW OF THE LESSER PYRAMIDS OF SAN JUAN TEOTIHUACAN

In the magnitude of its remains and in the evidence the site furnishes of population and antiquity, San Juan Teotihuacan, for centuries a religious centre of the Nahua races of the Mexican plateau, stands easily at the head of the ancient cities of Mexico. "If," says Prof. Holmes, "the entire mass of the ruined structures of Chichen, Uxmal, or Mitla was to be heaped up in a single mound, it would hardly surpass the great Pyramid of the Sun alone in bulk, and the whole bulk of the Teotihuacan remains is many times that of its chief pyramid." The great Pirámide del Sol is seen in the photograph to the left of the restored stepped pyramids that are to be seen in the foreground.



DECORATED CRUCIFORM TOMB STRUCTURE OF ZAPOTEC MEXICO

Walls of palaces, temples, and tombs of Zapotec Mexico were alike decorated with the characteristic geometrical mosaic ornamentation. The cruciform shape probably bears a relation to the ceremonial regard of the primitive Americans for the four world directions, North, South, East, and West. The same idea underlay the constant arrangement of temple mounds about a square court, in order that each crowning edifice should face a cardinal point.

THE MASTER BUILDERS. II
SHRINES AND CITIES OF ANCIENT
MEXICO

By L. E. ELLIOTT

SHRINES AND CITIES OF ANCIENT MEXICO

BY L. E. ELLIOTT

Author of "Brazil, To-day and To-morrow," etc.

IN a previous contribution to this work (pages 95-104) the writer of the following article described "The Maya Marvels of South America." Here she deals with Mitla and other centres of Aztec influence in southern Mexico, modern interest in which, dating from the days of Prescott, has been aroused afresh by recent exploration, under the auspices of the Government of Mexico and the Field Columbian Museum, Chicago, U. S. A.—EDITOR.

RISING high aloft upon their four-square, pyramidal foundation-mounds, towering into the blue above gardens and woodland, stood the vast temples and palaces of Mexico in their great day. Those which by some chance have escaped destruction or, under the patient hands of the excavator, are newly brought back to sight from their covering of soil and verdure, restored and rebuilt, still possess so much of their original bold and fantastic beauty that it is not a difficult thing to imagine them again as they were when the ancient gods were paramount in Mexico.

Walk among the bizarre, almost breath-taking stone carvings of Mitla; look upward at the serried chambers of soaring Papantla; climb the heights of Teotihuacan and Monte Alban and trace out the tremendous complex of temples and dwellings; or visit that dainty poem in stone, Xochicalco, and you will discover that ancient Mexico lives again. There are ruins of great buildings in other parts of the world, and perhaps especially in Egypt, where one is conscious of extreme serenity; a sense of peace, of brooding content, of eternal stillness, reigns there.

But no such feeling informs the old cities and shrines of

Mexico. Here is a pervading restlessness; one is conscious of something breathing, as though the bold and triumphant intent of the Mexican builders still lived and moved. Nor is this subtle and disturbing atmosphere of vitality due solely to the drawings, the innumerable drawings and sculptures of gigantic serpents, of tigers and strange monsters, of grotesque gnomes whose eyes watch from a thousand walls: you may catch as distinct an impression of a living force within the walls of Mitla, where none but geometric designs are carved upon the sweeping surfaces. When you feel, even lightly, that these huge buildings palpitate with life, the wrecked frame of such a tremendous theatre as Teotihuacan speedily takes form and colour, and from its splendours there rises again the intelligent and crowded daily movement, the brilliance and sound of that thickly-populated and industrious Mexico upon which the Spaniards burst more than four hundred years ago.

The dwellings of the humbler folk are gone. They were built of frail material by Toltec and Aztec just as similar cottages were constructed by the southerly Maya folk, and just as the descendant of the Aztec builds himself a place to live in nowadays. But the palaces of the kings, the communal dwellings connected with social and religious routine, and the temples of the long list of native or adopted gods of Mexico were built strongly and splendidly, upraised and richly ornamented. Smooth sides, burnished with such resplendent shining whiteness that the amazed Spaniards, at first sight, thought they were faced with silver, rose in perfect geometric progression to the crowning edifice of the summit, and these bright surfaces were broken in many instances by masses of deep carving, by frescoes and gaily-painted stucco-work. Wonderful fragments still remain of beautiful temples standing upon their pyramids.

The images of the gods are gone from the seclusion of their inner shrines, the black-robed, blood-stained priesthood has vanished for ever; gone is the glory of the Aztec emperor and the nobles who once, plumed and adorned with gold and gems, walked in proud procession up the tall stone stairways to the altars of the summit. The sacred fires that blazed, night and day, fed with scented copal, have left no traces but blackened hearths, whether they burned before the gentle deity, Quetzal-



Photo by C. B. Waite.

THE SMILING VALLEY OF MITLA, WITH PART OF THE RUINS IN THE FOREGROUND

Situated in a broad valley, surrounded by mountains, between Oaxaca City and Tehuantepec, the better preserved ruins of Mitla are on the outskirts of a modern village inhabited by natives of Zapotec stock, and occupy an area of about 2,000 feet from north to south, and about 1,000 feet from east to west. The geometric mural decorations afford a striking contrast to the anthropomorphic designs of the Maya. The material is of adobe and the soft but massive and durable trachytes that break down in great blocks from the cliffs around. The lintel stones in the remains range from 10 feet to 20 feet in length, and from 2 feet to 4½ feet in each of the other dimensions, and vary in weight from 10 to 15 tons.



TWO CENTRES OF AMERICAN CIVILISATION BEFORE THE DAYS OF COLUMBUS—

The lower photograph shows the excavations and restorations at San Juan Teotihuacan carried out by the Mexican Government. The top photograph (looking east) shows the Quadrangle of the Subterranean Galleries of the Group of the Columns seen at A in sketch-plan (photo by Mr. Barnard). On the summit of the pyramids was usually an open altar. The massive rectangular Zapotec buildings were set on platforms and were constructed partly above and partly below ground around courts. The wide doorless doorways have long stone lintels. In some cases the lintels are painted. The walls are



—THE SACRED CITIES OF MITLA AND SAN JUAN TEOTIHUACAN

of heavy concrete veneered with cut stone, and the façades are ornamented with sunken panels of geometrical mosaic. Under some of the buildings are cruciform chambers in which tradition says bodies or mummies of Zapotec kings were once laid to rest, surrounded with gold and gems. The only entrances were by triple openings in the façades. The flat roofs were composed of beams, cross "poles," brush, and pressed clay; the floors were of cement.



ORNATE SCULPTURE OF THE TEMPLE OF THE GOD QUETZALCOATL

Quetzalcoatl (feathered snake) was the high god of the ancient Mexicans, identified with the Kukulcan of the Maya. He is said to have instructed the natives in agriculture and the arts. Compelled to abandon the country through incurring the wrath of Tezcatlipoca, the Jupiter of the Mexican pantheon, his departure marked the close of the golden age of the Toltec, and the natives were expecting his return when the Spanish conquerors arrived. Among the temples devoted to his worship, those at Cholula and Teotihuacan were the largest and most splendid.

coatl, needing only flowers and fruit as tribute, or before the fierce and blood-loving Huitzilopochtli, devourer of the living hearts of men; but a stone's-throw distant dwell the vigorous, hardy peasantry of modern Mexico, a fertile and bright-spirited people, Christianised for four centuries and yet retaining much of their ancient habit of housing, clothing, food, and speech. From this race sprang the concepts and the skill that created Teotihuacan and Mitla; while they survive, ancient Mexico is not dead.

What was the origin, what was the extent, of the great Mexican civilisation, you ask yourself when you look upon these mighty ruins. The extent of the Aztec empire, the conditions of life prevailing in 1520, we know with comparative certainty, for the destroying Spaniard was compelled to wonder and admire, and wrote down the tale of what he saw. We have, too, the Aztec records and the plain evidence of the immense complexes of buildings, the daring architecture, the pottery and textiles and feather-work and metal artistry of a beauty-loving people. Of the origin of this great race we know less, but an outline, based upon native legend, insistent and precise, and backed by the shrewd guesses of the anthropologist, grows more definite yearly, as the testimony of handiwork slowly confirms tradition.

In its period of splendour the Aztec empire was well organised, powerful, and extremely energetic, dominating, from the great civic and religious centre of the Mexican Valley, all the great expanse of country from the Atlantic to the Pacific oceans, enforcing the payment of tribute from regions as far north as the present State of Hidalgo, and as far south as Guatemala. Regular expeditions of a guild of traders went far beyond these territories, treading the maze of forests and hills at least as far as Salvador Republic; a colony of Nahuatl-speakers, settled on Chiriqui Lagoon, on the coast of Costa Rica, was probably an offshoot of Aztec enterprise, and there are indications which appear to point to contact with Peruvian culture.

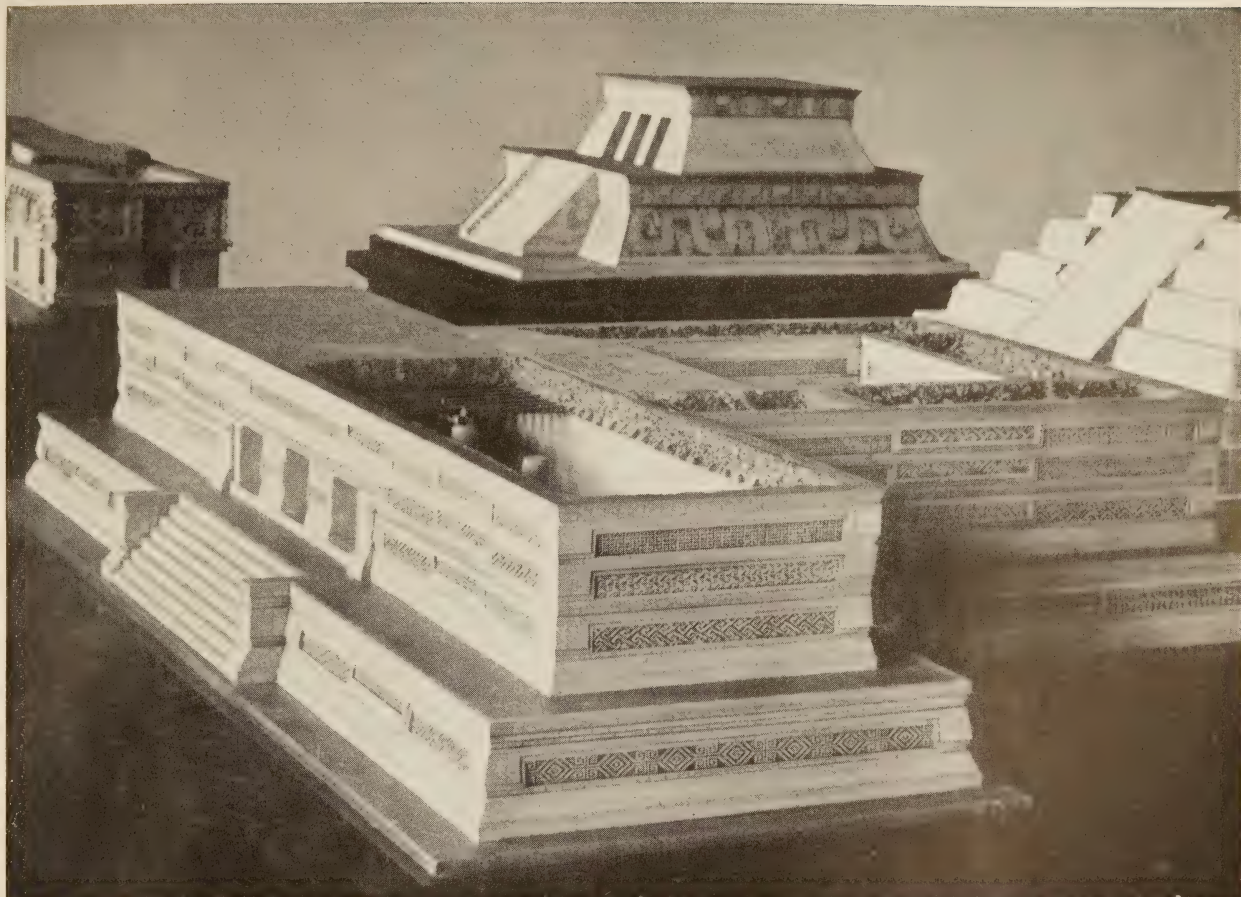
For an account of the daily life of the great centre of Aztec power, the shining twin lake cities of Tenochtitlan and Tlatelolco in the Vale of Mexico, guarded by the eternal snows of Ixtaccihuatl and Popocatepetl, go to the pages of Bernal Diaz

del Castillo, that very human conquistador: "When we arrived at the great market place we were astounded at the number of people and the quantity of merchandise that it contained, and at the good order and control that was maintained, for we had never seen such a thing before. . . . Each kind of merchandise was kept by itself and had its fixed place marked out. Let us begin with the dealers in gold, silver, and precious stones, feathers, mantles, and embroidered goods. Then there were other wares consisting of Indian slaves, both men and women, and I say that they bring as many of them to that great market for sale as the Portuguese bring negroes from Guinea; they brought some along tied to poles, with collars about their necks so that they could not escape, while others they left free. Next there were traders selling great pieces of cloth and cotton and articles of twisted thread, and sellers of cocoa. . . . There were those who sold cloths of henequen and ropes, and sandals, and sweet cooked roots, all kept in the place in the market assigned to them. In another part there were skins of tigers and lions, of otters and jackals, deer and other animals, and badgers and mountain cats, some tanned and some untanned."

This Spanish soldier goes on to tell of the "beans and sage, fowls and cocks with wattles (i.e., turkeys, which the Europeans had never seen before), rabbits, hares, mallards, and young dogs," sold for food; of the fruit, the great variety of pottery, of "those who sold honey and honey paste, and other dainties like nut paste," and the venders of lumber, planks, benches, and firewood; of the paper, made of maguey fibre; of the reeds "scented with liquid-ambar, filled with tobacco"; of the yellow ointment, and the cochineal and herbs and salt; of the sellers of stone knives, cunningly flaked from the matrix, and of the section given over to the women who sold fish.

There were for sale also, says Bernal Diaz, axes of brass and tin and copper, and gourds and "gaily-painted jars made of wood." And there was raw gold. "This gold is placed in thin quills of the geese of the country, white quills, so that the gold shows through, and according to the length and thickness of the quills they arrange their accounts with one another, settling the value of so many mantles, or so many gourds of cocoa."

Both Bernal Diaz and the "Anonymous Conqueror" speak



Department of Anthropology, U. S. National Museum.

MODEL OF THE "PALACE OF THE PILLARS," IN THE ANCIENT MEXICAN CITY OF MITLA

Figures defaced by religious zeal, stones removed for later structures—the story that is the despair of the egyptologist has been repeated in Mexico; but, owing to its exceptional state of preservation, the building modelled above needed little hypothetical restoration. The panelling of the foundation platform has been restored to agree in style with the walls above. Length of façade of the original building 133 feet, of model 7 feet. The model was constructed under supervision of Prof. W. H. Holmes, when curator of the Department of Anthropology, Field Columbian Museum, Chicago.



Mexican National Museum. Photo by C. B. Waite.

WHERE LIVING HEARTS WERE OFFERED

This great stone was probably an elaborate example, used on the most important ceremonial occasions, of a Quauhxicalli, or vessel in which the palpitating hearts, torn from sacrificial victims were deposited. The depression in the centre represents the opening of the smaller vase used on less important occasions.



Mexican National Museum. Photo by C. B. Waite.

CALENDAR STONE OF THE AZTECS

This colossal fragment, upon which are engraved the Aztec day-signs, was discovered in 1790. A huge face in the centre typifies the sun, and the dates representing the "previous creations" of the world are also carved upon the stone.

of the extreme cleanliness of the temples and courts of ancient Mexico "paved with great white flagstones," or, where paving-stones were not used, the floor was "cemented and burnished and all very clean, so that one could not find any dust or a straw in the whole place." The ordinary dwelling-houses were built, in old Mexico City, of a pinkish stone, and, in a land where cooking is chiefly performed in the open air and no chimneys are required, the flat roof was a family resort and, as it were, a grand stand for days of great ceremonies and events.

Leading to the twin lake cities from the mainland were three great stone-built causeways, connecting the north, south, and west; and from lovely Chapultepec on the mainland, to the west and slightly south, ran the canal that supplied the city folk with fresh water. Drawbridges, constructed at intervals along the causeways, permitted the flow of water and the passage of canoes, for the Aztecs were good watermen, and there was a tremendous incessant movement upon the lake of people bringing merchandise to and from the prosperous towns which clustered about the margins of the once widespread sheet of water.

Now Mexico stands upon dry land, for the Spaniards long ago drained the water away; but in the splendid days of the old empire the island city must have been a thing of wonder, a fairy island with its green gardens floating above the sapphire flood, and with the silver-shining tops of the *teocallis* rising into the radiant sunlight. So the exhausted and marvelling Spaniards saw it when, climbing the terrible mountains from the burning coasts of Vera Cruz, they topped the crest and first looked down upon the lovely country that they were to ruin. That so great and populous a country should have gone down before a handful of invaders is still astonishing, when one looks upon all the evidences of power, resource, and huge numbers. Cortés had but four hundred and fifteen Spaniards with him; the Aztec empire contained at least ten million people. It is true that the Europeans possessed, in addition to their extraordinary courage, determination, and faith in the holiness of their Christian mission, two great weapons, offensive and defensive instruments, the gun and the horse.

But even with these terrifying advantages, their tiny band might have been quite easily swamped, overwhelmed, or even

starved to death, by the people of Mexico had the latter not been betrayed—doubly betrayed—by subject folk of the country, and by their own faith in the fair god Quetzalcoatl.

Under a glass case in the middle of an upper gallery in the British Museum are three strange masks of mosaic, inlaid with turquoise and obsidian. They are the very symbols of the Aztec's self-betrayal, pathetic and speaking symbols. For these are part of the insignia from the great temple of Quetzalcoatl, and they were sent in childlike faith by the Emperor Montezuma to Hernán Cortés when the Spaniards lay planning their campaign at the sweltering sand-dunes of Vera Cruz. Quetzalcoatl, the fair god, the gentle god who had come from overseas long ago to teach the hunting, war-like people of Mexico the arts of peace, had sailed away and promised to return some day—in a "ce acatl" month. And by one of the most dramatic coincidences in history it happened that it was during a "ce acatl" month that the hard-bitten adventurer from Cuba navigated his little marauding fleet to the shores of Mexico.

The look-outs, spying the ships from afar, saw the white sails rising, smooth and square, in geometric progression, like the stepped pyramids of their temples: and they sent runners to the Aztec emperor in his painted palace of the lake city and reported that at last their god Quetzalcoatl was coming back, and that he was bringing his teocallis across the sea. So sure were they that for months the Spaniards were treated as welcome guests, and even when doubts arose among the less religious chieftains and populace, Montezuma insisted upon the sanctity of the strangers, protecting them, obeying them, and at last giving his life for them.

By that time resistance was almost hopeless. The Spaniards had seen the weakness of Mexico from within, had formed invaluable friendships with tributary folk nursing grievances against Aztec domination, and had learned the speech and ideas of the victim land. No single individual contributed more to these friendships and this inner knowledge than that unhappy princess, beautiful and clever Marina, native of that region where women still rule to-day, Tehuantepec. Fascinated by the newcomers, willing to wreck her country for them, she moves across the page of the great tragedy, passed from the arms of one

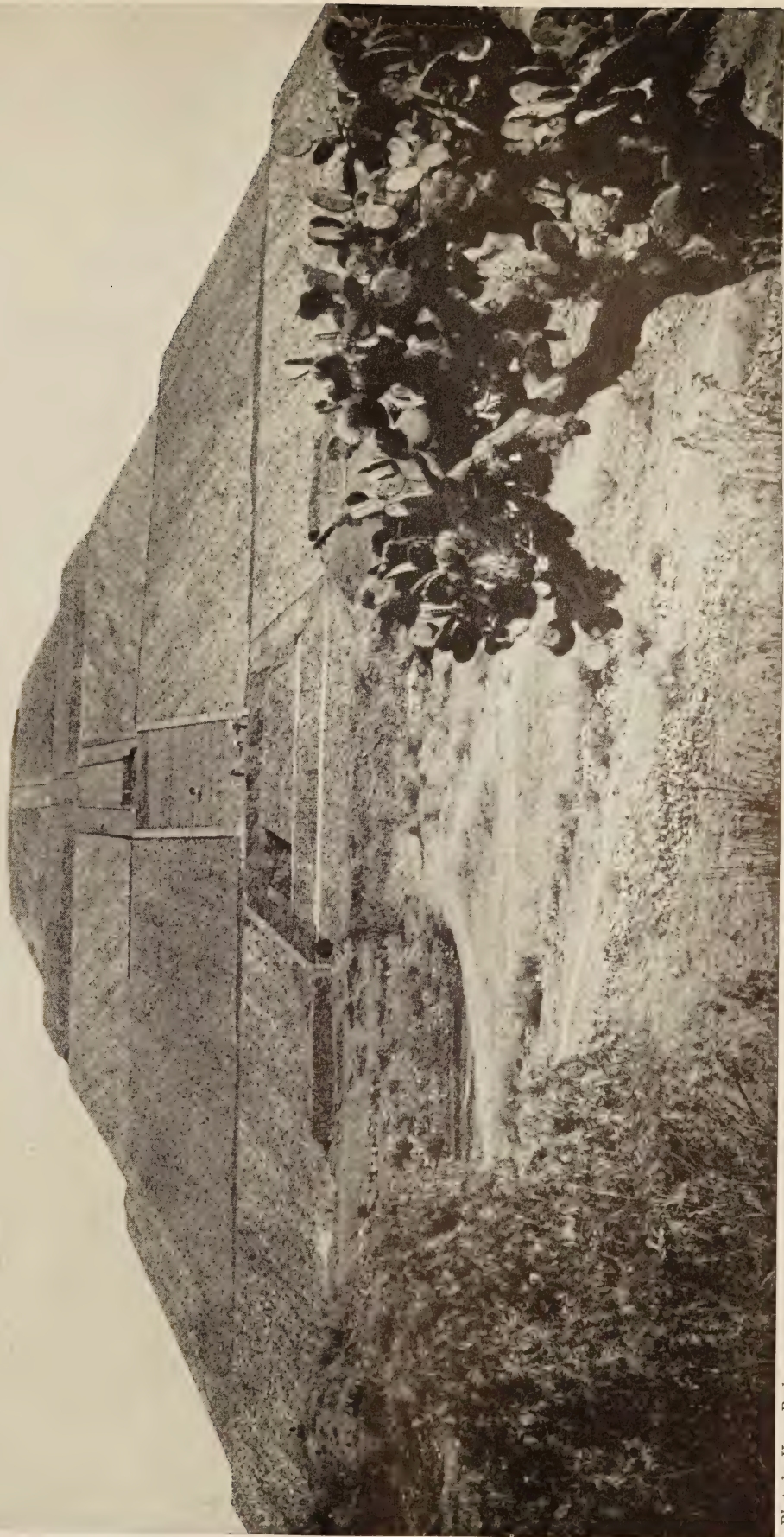


Photo by Hugo Brehme.

PYRAMID OF THE SUN, SAN JUAN TEOTIHUACAN, THE MOST IMPOSING STRUCTURE OF ANCIENT MEXICO

This vast mound, with its great stairways and terraces, is about 1,000 feet square at the base, about 100 feet square at the summit, with slopes at an angle of about 45 degrees. The height is about 200 feet, and at the summit was a temple. It is built of adobe, the same material with which the peon of to-day constructs his mud shack, but the great weight of the structure has compressed the adobe blocks into a solid mass, which is faced with stone and stucco. It looks down on the "Pathway of the Dead," and adjacent is the "Pyramid of the Moon," while remains of smaller pyramids are arranged near by in orderly series. The sides face the four cardinal points.



Photo by Hugo Brehme.

LEGEND OF QUETZALCOATL CARVED IN STONE AT SAN JUAN

Part of the decorated front of the Temple of Quetzalcoatl at San Juan Teotihuacan. Here the serpent-heads of the god are prominent. The sea-shells (in red) are symbolical of Quetzalcoatl, because their spiral form typifies the eddies of the wind, with which the god was particularly associated. He is suggested again in the background of carved stone, with its motive of the feathered serpent, the most common representation of Quetzalcoatl as god of the winds or of the air. This Toltec deity needed only fruits and flowers as tribute, but his influence seems to have waned before that of Huitzilopochtli, the war-god of the Aztec, who "devoured the living hearts of men."



HEAD OF THE WATER-SNAKE ON THE TEMPLE OF QUETZALCOATL AT TEOTIHUACAN

The Temple Mound of Quetzalcoatl, the great god of the Toltec folk who preceded the Aztec in Mexico, has lately been revealed by excavation after many centuries of neglect. It is in all probability a thousand years old. In form, the foundation upon which the shrine stood is a stepped pyramid, the "risers" of which are ornamented with relief decoration in stone, emblematic of the dual aspect of the god. Striking representations of the "Water-snake" and the "Feathered snake" stand boldly from the façade in alternate series, typifying Quetzalcoatl's twofold function as the deity of motion and of air.

Spaniard to another, mistress, among others, of the great Cortés himself.

Contributory also to the survival of many Spaniards in a score of desperate hand-to-hand contests during even the last agonised stages of the siege of Tenochtitlan was the fixed idea of the Aztecs that their gods, turning their faces from their worshippers, could be appeased only by the blood of living men. To this end they repeatedly lost chances of slaughtering whole bands of Spaniards, and, in the attempt to seize them alive, were killed in myriads, their naked bodies cast vainly against the Spanish guns and swords.

When the Aztecs were successful in such captures the god received his due, and the Spanish besiegers, watching impotent and furious from afar, saw their companions dragged up the great steps of the *teocalli*, and flung upon the sacrificial stone; they saw the still palpitating heart torn from the body opened by the priest's stone knife. No wonder that, after the prolonged and bloody siege of Mexico was over, the common soldiers needed no behest from their *padres* in the destruction of the temples. Not until the great temples of Tenochtitlan and Tlalotelco were reduced to ruin, the images of the gods hurled from the summit, the pyramids little more than rubbish-heaps, and a Christian church set upon the place of the old altars, was the anger of the Spaniards appeased.

The cathedral of Mexico stands to-day upon the wreck of the temple of Huitzilopochtli, with many a carved stone of the old times built into its walls, where you may still trace their outlines. In that haste to destroy, temples all over the country were wrecked, and only here and there some ancient structure, perhaps already neglected, escaped deliberate ruin. Not until the archæologist began to uncover and make records, to search and inquire, among the huge series of Mexican ruins, was any serious interest shown in the origins of the great empire that went down for ever before the hardy adventurers of Cortés.

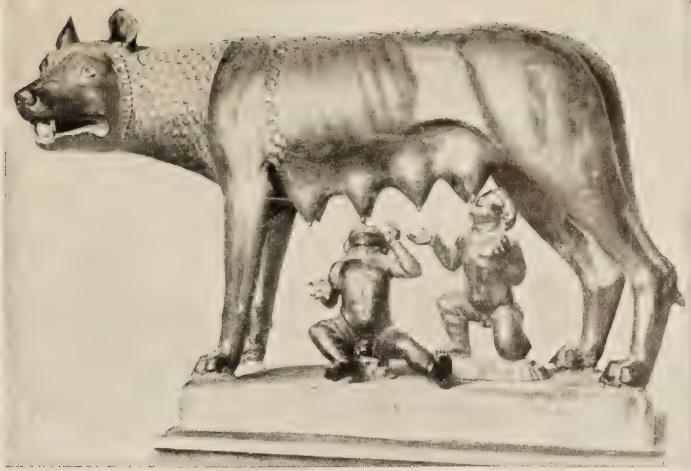
To-day, as I have said already, legends and guesses have woven a story of the Aztec civilisation. It is the story of successive waves of migration, beating upon a fertile and populous shore. Again and again, throughout history, the poignant story of the rise and fall of civilisations has followed similar outlines.

It is the tale of settled dwellers in a fruitful country, developing during years of safety an elaborate culture, attended by delicate arts and crafts, definite social order, and a religion with fixed ceremonial and a powerful priesthood. Presently these folk fall victim to an incoming horde of less civilised people, either nomads or tribes driven from settled lands by economic pressure—that is, by hunger—and generally armed with a weapon unknown to their victims, who are also at a disadvantage owing to lack of initiative: the agricultural and pastoral problems present the same faces, year by year, while in contrast the hunters confront new difficulties day by day, and, trusting to mental and physical agility, develop an acute mother-wit in their struggle with nature.

Frequently the invaders appear as a womanless horde, and take girls of the invaded lands to wife; the children learn the speech of the mother, learn worship of the old native gods, who are presently added to the newcomers' pantheon, and in the long run much of the ancient culture survives, strengthened by the ideas of the invaders. Frequently the result of the invasion is an immense artistic impetus, as in the history of Greece.

This story differs widely in detail, and has a score of different settings. One of the most striking in the history of human habitation of the globe is the setting of the valley of Mexico. Here we are able to-day to differentiate between three great periods. The first is called, for want of a better, the Archaic period, and is that of the aboriginal folk whose area of distribution was extremely wide, spreading far outside the Mexican Valley, and embracing the still too little known Panuco region. This Archaic culture presents features which are homogeneous, and it is significant that among the districts of its influence that of the Zapotec possesses no trace of a migration legend. Practically all the Nahuatl people now included in Mexico cherish such a legend: they say that they came from somewhere else, while the Zapotec folk make no such claim. Here, declares the anthropologist, are the original people.

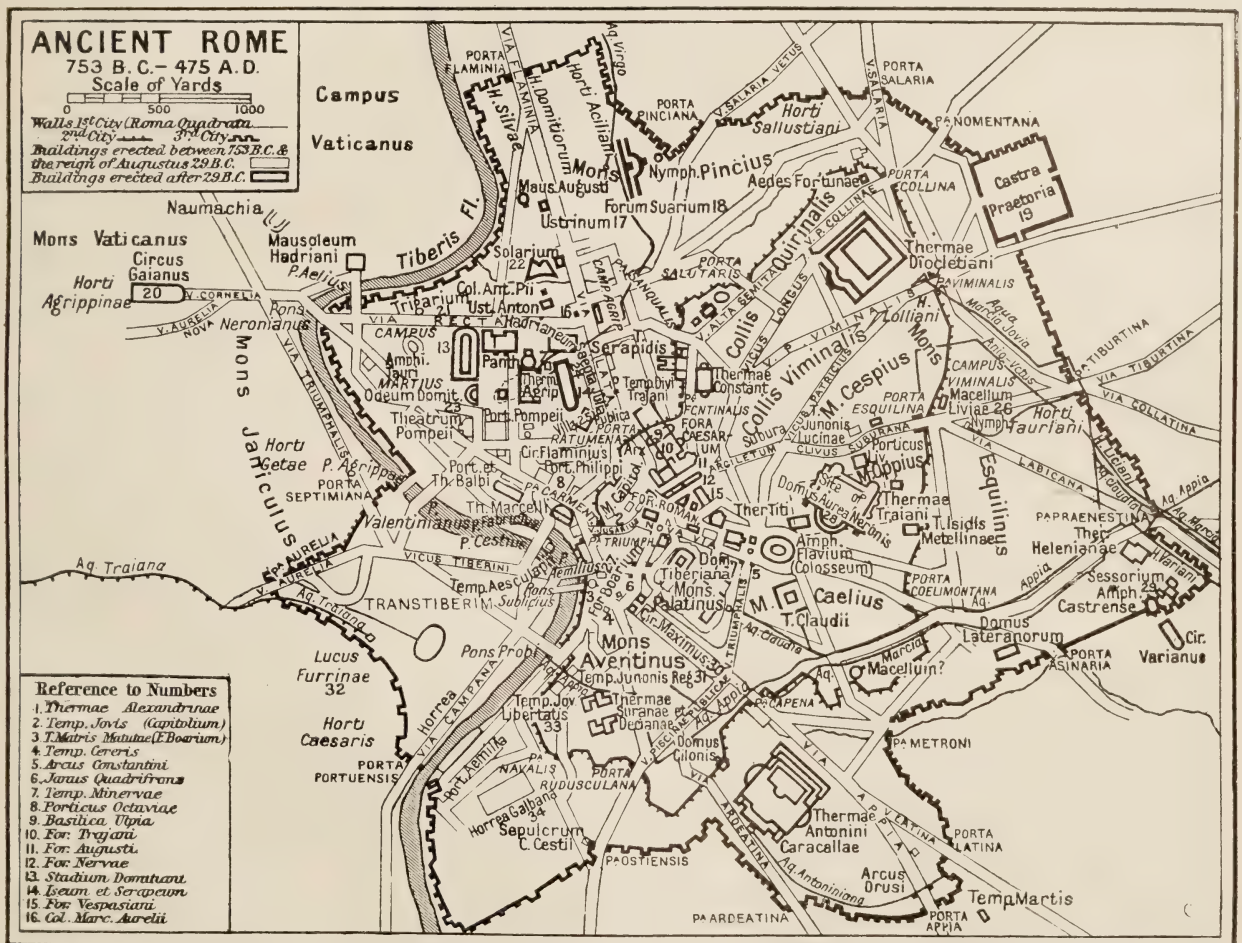
The second period is that of the so-called Toltec, builders of all the great temples and palaces which are not utterly wrecked to-day. It is clear that here was a great, and perhaps the first, incoming wave of Nahuatl-speaking people, coming



Capitoline Museum. Photo by Anderson.

SAVAGE MOTHER OF THE MIGHT OF ROME

According to the old legend Romulus, the eponymous hero of Rome, and his brother Remus were suckled by a she-wolf; and a statue representing this is known to have stood in the neighbourhood of the Temple of Jupiter Capitolinus. While it is doubtful whether this is the statue, with the exception of the twins it dates from the fifth century B.C.



English names of places indicated by numbers. 1. Baths of Nero restored by Alexander Severus. 2. Temple of Jupiter (Capitol). 3. Temple of Mater Matuta (Cattle market). 4. Temple of Ceres. 5. Arch of Constantine. 6. Arch of Janus with Four Faces. 7. Temple of Minerva. 8. Colonnade of Octavia. 9. Basilica of Trajan. 10. Forum of Trajan. 11. Forum of Augustus. 12. Forum of Nerva. 13. Stadium of Domitian. 14. Temple of Isis and Serapis. 15. Forum of Vespasian. 16. Column of Marcus Aurelius. 17. Crematorium. 18. Swine Market. 19. Camp of Praetorian Guards. 20. Circus of Caligula. 21. Training Stables. 22. Sundial. 23. Concert Hall of Domitian. 24. Voting Enclosures of Julius Caesar. 25. Public Villa. 26. Provision Market of Livia. 27. Cattle Market. 28. Golden House of Nero. 29. Court of Law. 30. Great Circus (Circus Maximus). 31. Temple of Juno. 32. Grove of Furrina. 33. Temple of Jupiter and Liberty. 34. Granaries of Galba.

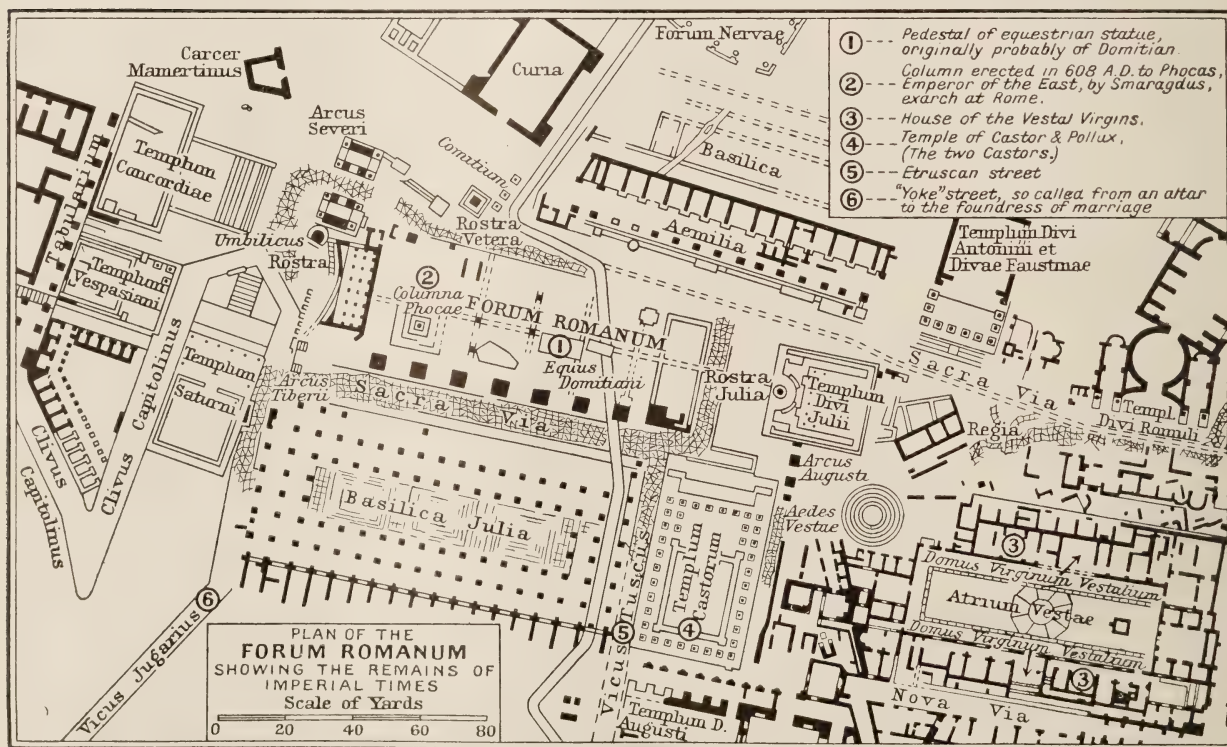
Latin terms and their equivalents in English: *Aqua*, water, aqueduct; *collis*, hill; *horti*, gardens; *mons*, mount; *pons*, bridge; *porta*, gate; *thermae*, baths; *vicus*, street.



Photo by Ewing Galloway.

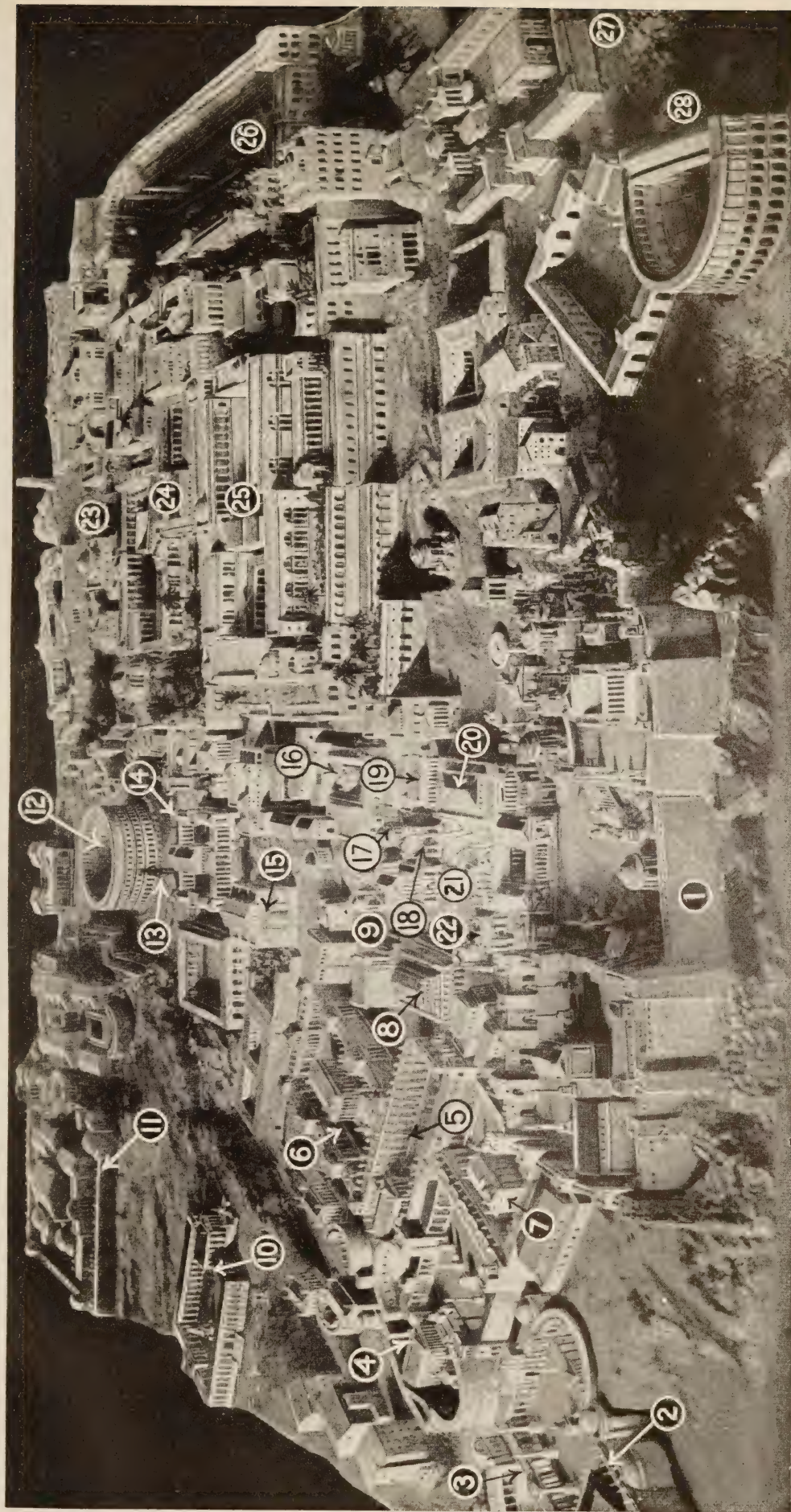
PYRAMIDAL TOMB OF GAIUS CESTIUS

This pyramid, a noble structure 116 feet high faced with marble slabs on a square base, is the tomb of Gaius Cestius, a contemporary of Cicero. The sides at the base measure 33 yards each way. It stands just within the medieval Porta San Paolo, seen in the background, originally built on the site of the Porta Ostiensis by the great Belisarius.



The old Forum at Rome was originally a marsh lying between the Palatine and Capitoline hills. After being drained by the Cloaca Maxima it was long used as a market-place and centre of barter, with a smaller space to the north, the Comitium, reserved for popular assemblies (comitia). With the expansion of the population, however, it was found necessary to transfer the comitia to the Forum and use subsidiary fora for purposes of trade; the Forum also being employed for spectacular events and the transaction of legal and commercial business. Nevertheless, further enlargements were always required, and these were supplied by the erection of adjoining Basilicas, and the great Fora of the Emperors.

Latin terms employed in the above map with equivalents in English: *Aedes*, temple; *arcus*, arch; *atrium*, court; *basilica*, hall for legal and civic proceedings; *carcer*, prison; *clivus*, slope of a hill; *comitium*, space for public assemblies, etc.; *curia*, senate-house; *D.*, *Divus*, deified (i.e. dead); *Regia*, official house of the Pontifex Maximus (high-priest); *Rostra*, public tribunal; *Tabularium*, Record-office; *Umbilicus*, "navel," centre of Rome; *via*, road; *vicus*, street.



From the reconstruction in plaster by Professor Marcelliani.

RECONSTRUCTION OF THE SOUTHERN PORTION OF ROME AS IT APPEARED IN THE DAYS OF ITS GRANDEUR

1. Capitoline Hill, with its temples and many public buildings. 2. Basilica Ulpia. 3. Forum of Trajan, erected A.D. 111-114, and in ruins in the tenth century. 4. Forum of Augustus, built after the battle of Philippi, 42 B.C., and excavated in 1888-89. 5. Forum of Nerva or Transitorium and Temple of Minerva. 6. Forum of Vespasian and Temple of Peace. 7. Temple of Venus. 8. Basilica Emilia, built by Æmilius Lepidus, 179 B.C. 9. Temple of Faustina and Antonius, dedicated A.D. 141, in the interior of which was built the Church of S. Lorenzo in Miranda. 10. Portico of Livia. 11. Baths of Titus and Trajan. 12. Colosseum. 13. Colossal statue of Nero as god of the sun, 118 feet high. 14. Temple of Venus and Roma. 15. Basilica of Constantine, originally built by Maxentius, A.D. 306-312. 16. House of the Vestals. 17. Temple of Vesta, where the sacred fire was kept alight by the Vestal Virgins. 18. Triumphal Arch of Augustus. 19. Temple of Castor and Pollux, first founded in 484 B.C. after the battle of Lake Regillus. 20. Basilica Julia, founded by Julius Caesar, 46 B.C. 21. Rostra, or platform from which public orators made their speeches, erected by Augustus. Nos. 14-21 were included in the old Forum. 22. Arch of Septimius Severus, erected A.D. 203 to commemorate the victories of the emperor and his sons in the East. 23-25. Imperial palaces on the Palatine Hill. 26. Circus Maximus, which held over 200,000 spectators. 27. The Velabrum quarter. 28. Theatre of Marcellus, completed 13 B.C., accommodating about 14,000 spectators.



Photos by Donald McLeish.

COLUMN OF MARCUS AURELIUS AND THE CIRCULAR "TEMPLE OF VESTA"

Left: Erected in honour of Marcus Aurelius by the people of Rome, this marble column is modelled on that of Trajan, but is of inferior workmanship. It is $97 \frac{1}{4}$ feet high, excluding the base and the later additions of the pedestal and statue of S. Paul, and the shaft, $11 \frac{1}{2}$ feet in diameter, is composed of 28 drums. The spiral reliefs portray battles in the Marcomannic war. Right: This beautiful little temple has received more admiration, perhaps, than any other of the remains in Rome. It consists of a circular cella 26 feet across, surrounded by twenty Corinthian columns of Parian marble 32 feet high, the total circumference being 156 feet. Widely known as the Temple of Vesta, it was more probably dedicated to Matuta, and took its present form in the reign of Augustus, only the original roof and entablature having been replaced since his time.

from the north and meeting upon the soil of the true natives an attenuated but virile stream of Maya, creeping up for their own mysterious reasons from the south. The result was of tremendous cultural importance. Buildings rose in magic exuberance; painting and sculpture and all the lovely arts and crafts flourished. The Toltec remains are in some regions more than 18 feet in depth—plain evidence of a long life of settled development.

As the third and last great wave, came the Aztecs, who tell their own story clearly in record and tradition. They, too, came from the north: and it may be added here that the Nahuatl tongue can be traced as far north as the State of Montana in the American Union. Perhaps this, or some neighbour region, was the old home of the Aztecs, a hardy fighting, hunting tribe who came armed with the bow, then an unknown weapon in the Toltec country. Their brilliant, organised reign had lasted about two hundred years when the Spaniards arrived, for, according to the most careful correlation of our system of dating with the Aztec records, their arrival in Tenochtitlan occurred about 1325 A.D. Rapidly these adaptable hunters adopted the simplified calendar which the Maya invented and transmitted to the Toltec. They adopted, too, the gentle god Quetzalcoatl, who is identical with Kukulcan of the Maya; and they, too, began to build splendid cities, to encourage arts and crafts, and to organise a prosperous government. They set up wonderful palaces and temples, but they carved no such stelæ as the Maya had done in the south, partly for the reason that, using the simpler system of dating which acknowledged a cycle of only fifty years, no such elaborate calculations and records of calculations were needed.

It was Montezuma I., reigning about 1440, great-grandfather of the tragic friend of Cortés, who made the Aztec empire powerful, carrying war into neighbouring countries and forcing tribute from many tribes far outside the valley of Mexico. Since the fierce Aztec gods needed human blood, no permanent pacification of such tributaries was wanted: a war now and again was part of the social and religious policy. Thus, when the Spaniards appeared in Mexico, they found an extra weapon to their hands in the unrest and hostility to the central power of the

outlying tribes. The great Aztec empire crumbled and fell, went down in blood and ashes. To-day we walk among its ruins, reconstructing a magnificence that is unlike any other magnificence, a series of concepts that are like no other concepts, striving to understand a little of the strange genius, born of the Mexican soil, that flowered in such glorious colour, in such splendid generosity, more than four centuries ago.



Photo by Florence Farmborough.

ROME'S MOST IMPRESSIVE RUIN: THE COLOSSEUM FROM AN UNUSUAL ANGLE

To the visitor of to-day the might and grandeur of the old Imperial City is summed up in the vast ruins of what is known as the Colosseum. This, however, was not its original name; it was called the Flavian Amphitheatre, after the family during whose reigns it was built. It was begun by Vespasian in A.D. 72, dedicated by Titus, and finally completed by Domitian. The last recorded entertainment took place in the eleventh century, and from then onwards its uses have been many, in particular as a convenient quarry for Roman architects, to which is due the disappearance of at least two-thirds of the original structure.



By permission of the Berlin Photographic Co., London, W.

IMPERIAL ROME ON HOLIDAY: WATCHING THE CROWDS ABOUT THE COLOSSEUM

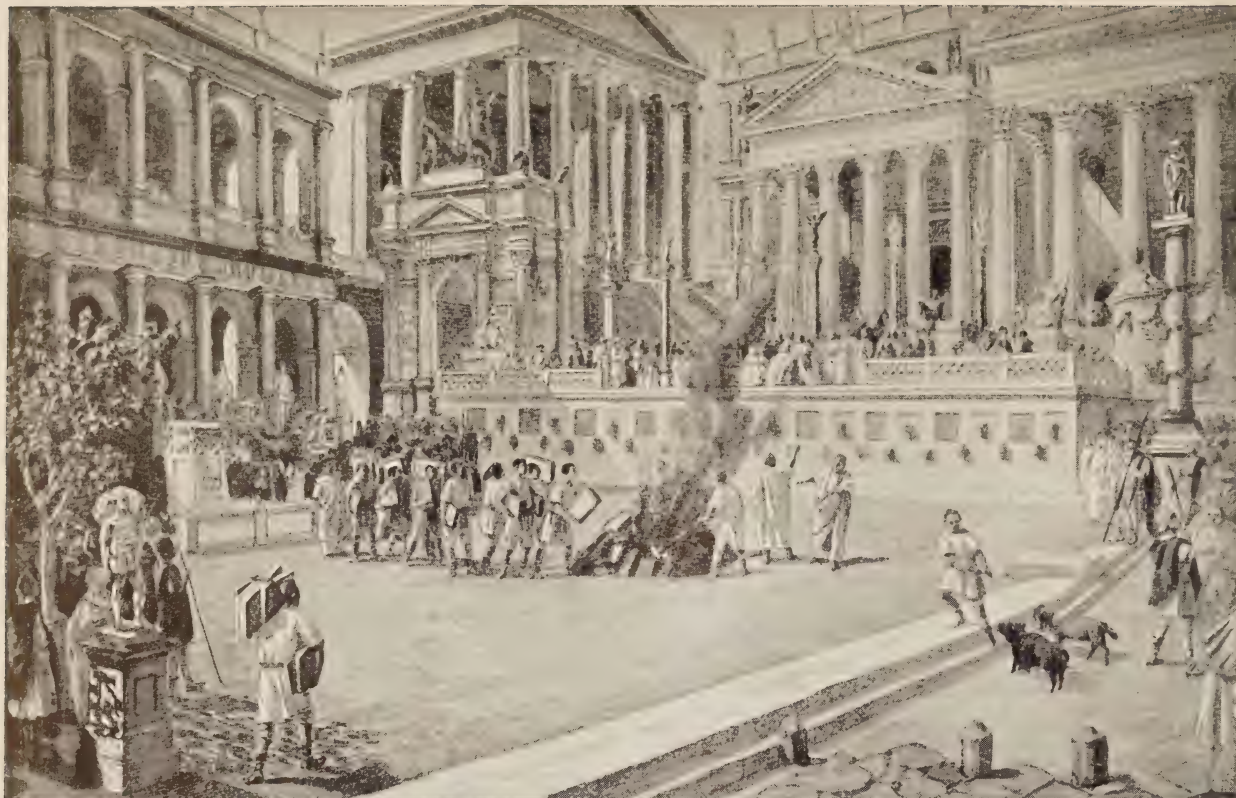
Sir Lawrence Alma-Tadema, than whom no artist has done more to bring to life the classic past, in this charming picture shows us the Colosseum on a fête day. From the balcony of some patrician mansion, adorned with the sculptor's art, and garlanded with flowers for the occasion, the ladies of the household are looking down upon the throngs about the mighty building and the processions as personages of note leave with their attendants. From the masts about the walls sailors suspend awnings when the sun is hot.



Photo by Donald McLeish.

VAST DIMENSIONS OF THE GREAT FLAVIAN AMPHITHEATRE WHICH SEATED 50,000 PEOPLE

An atmosphere of death from the beginning surrounded the Colosseum, for it was commenced in the flush of triumph after the capture and destruction of Jerusalem. The outer wall was 157 feet high and consisted of four stages in different styles of architecture like the Theatre of Marcellus, crowned by an entablature. Each of the first three stages was made up of eighty arches, the topmost one being solid, with forty square windows. The shape is oval, with total exterior dimensions of 195 yards by 156 yards. The arena once measured about 28 by 17 yards, and was surrounded by four tiers of seats corresponding to the four stages, the upper tier, however, having been added in A.D. 217 to replace the original one of wood destroyed by fire.



Top illustration from the painting by G. Lessi, after restorations by G. Gatteschi.

TWO RECONSTRUCTIONS OF THE WESTERN BUILDINGS IN THE FORUM ROMANUM

To the left of the lower reconstruction is the façade of the Temple of Castor and Pollux, and beyond it the Basilica Julia; beyond that again the Arch of Tiberius and Germanicus (visible in the upper picture), and the Temples of Saturn, Vespasian and Concord in that order; below the temples, the Rostra, and in the background, the Arx. Two scenes of contemporary life are also here depicted: above, the historic remission by Trajan of debts to the State; and below, a religious procession before the Temple of Castor and Pollux.



Restoration by J. Hoffbauer.

THE FORUM ROMANUM AS IT WAS, SEEN FROM THE COURT OF THE HOUSE OF THE VESTALS

Compare this reconstruction with the photograph backing it, as the two embrace exactly the same view. The spectator must for the moment become a Vestal Virgin, and look down the Sacred Way towards the Capitol from within the Atrium Vestæ. On the left will be the Temple of Vesta (not the Temple of Matuta), with the Temple of Castor and Pollux behind it; on the right a portion of the Regia, repository of the priestly archives, and of the Temple of Julius Cæsar; and in the far background the Tabularium, or "Record Office."



ALL THAT TIME HAS SPARED FROM THE GLORIOUS YESTERDAY OF THE FORUM ROMANUM

Alas for the Eagles! The very centre of the centre of the world—for the Umbilicus Romæ was in the Forum, and Rome was the hub of the nations—had become a rubbish-heap when in 1870 men began to excavate these poor vestiges. The stumps of the circular peristyle of the Temple of Vesta are in the foreground; two of the only three remaining pillars of the Temple of Castor and Pollux are seen to the left; of the Temple of Saturn but eight Ionic columns remain, and three Corinthian columns of the Temple of Vespasian. To the right is the still solid Arch of Septimius Severus, and to the left of that the column of Phocas.

THE WONDER CITIES. X
THE SPLENDOURS OF IMPERIAL ROME
BY EDWARD HUTTON

THE SPLENDOURS OF IMPERIAL ROME

BY EDWARD HUTTON

Author of "Rome," "Italy and the Italians," etc.

BY good fortune, the last of the historians of ancient Rome, Ammianus, has left us a vivid description of the Eternal City on the morrow of the removal of the seat of Empire by Constantine from Rome to Constantinople, while it was still in all its glory, its unapproached magnificence unspoiled, its classic architecture, its treasures of sculpture and every art, its forums and baths and palaces still perfect and intact, in all the splendour of their unsullied beauty.

The occasion of his most graphic record was the visit and triumphal entry of the Emperor Constantius, the son of Constantine, in April, 357. He was received by the magistrates and Senate. The streets were lined with an innumerable multitude, so that the Emperor is said to have affected surprise that the human race should thus suddenly be collected on the same spot. He was lodged in the ancient palace of Augustus, he presided in the Senate, and harangued the people from the tribunal which Cicero had so often ascended. He was present at the games of the circus, and accepted the crown of gold prepared for the ceremony.

His short visit—the Emperor had not been present in Rome for thirty-two years—was employed in viewing the monuments of the Eternal City. In his company was a Persian prince who had taken refuge in his train. Together they visited the Forum, and together were overwhelmed and astonished by the marvellous beauty of the city. They admired "the awful majesty of the capitol," beheld with wonder the mighty Baths of Caracalla and

Diocletian, which in their vast extent resembled provinces, "the massy greatness of the amphitheatre of Titus" (the Colosseum), the Pantheon like the whole quarter of a city, rounded smoothly, and fair with lofty pillars and arches, the columns bearing the figures of former princes, the wonderful Theatre of Pompey, the noble Temple of Peace. Above all they were amazed by the Forum of Trajan with its column, "a work unique under the whole heavens, wonderful, worthy as we consider of the approval of the gods." So much did they admire this incomparable structure that Constantius thought to mark his advent by imitating the equestrian and colossal statue he had seen there, till the subtlety of his Persian guest remarked that he must first command such a stable to be made if he could. And with the malice of his race he added that one thing only had pleased him: to find that men died at Rome as well as elsewhere.

We who visit Rome to-day and contemplate all that splendour in ruin, can only have an imperfect idea of the sentiments which the Imperial City inspired when in all her glory and majesty. No city of the medieval or of the modern world is comparable with her. The medieval cities were villages filled with hovels grouped about a few fine buildings at best; our modern cities, triumphant in their energy and their ugliness, are none of them to be thought of for a moment beside Imperial Rome.

It is, in fact, extremely difficult for us to realise what Rome was in the long years of her splendour. She was the capital not of a country, however great, but of the world. Her Empire, in the sonorous words with which Gibbon opens his *History*, "comprehended the fairest part of the earth and the most civilised portion of mankind." But so beneficent was her work, the unity which she founded and maintained, that the same writer goes on to say that "if a man were called to fix the period in the history of the world during which the condition of the human race was most happy and prosperous he would, without hesitation, name that which elapsed from the death of Domitian to the accession of Commodus (A.D. 96-180)."

No one, no man of European tradition and education that is, can visit Rome for the first or for the hundredth time except as a pilgrim. The reason for this is not exclusively Christian at all; it is that Rome was the creator, and that twice over, of all



After a reconstruction by G. Gatteschi.

TEMPLE OF VENUS AND ROMA, ARCH OF TITUS AND TEMPLE OF JUPITER STATOR

A reconstruction of the Temple of Venus and Roma appears elsewhere. In this reconstruction also it may be seen in the background rising above its surrounding colonnade. Below it is the Arch of Titus, and to the right the Temple of Jupiter Stator, built or rebuilt by Atilius Regulus in 294 B.C., but fabled to have been originally founded by Romulus. To the right of the picture the Clivus Palatinus commences the ascent of the Palatine Hill.



Photo by Donald McLeish.

ARCH OF SEVERUS AND PILLARS OF THE TEMPLE OF SATURN

Erected in A.D. 203 to commemorate the victories in the East of Septimius Severus (193-211) it is 75 feet high and 82 feet broad. Its marble columns, statues, and bas-reliefs have been much mutilated, while the six-horse chariot in which the Emperor was shown had disappeared before the arch was excavated in 1803. The road is the old Clivus Capitolinus.



From a reconstruction by R. Lanciani.

TRIUMPHAL ARCH OF THE EMPEROR SEPTIMIUS SEVERUS IN THE FORUM

Most of the features in this reconstruction have been illustrated and described in the other reconstructions of the western end of the Forum (which actually runs north-west and south-east, but the term is used for convenience). The Tabularium at the back, however, is better shown here than elsewhere; its exact use is not certain, but archives of some sort were deposited in it; also the arch on the right, erected in honour of Septimius Severus, the Emperor who died and was buried at York (Eboracum).



Photo by Donald McLeish.

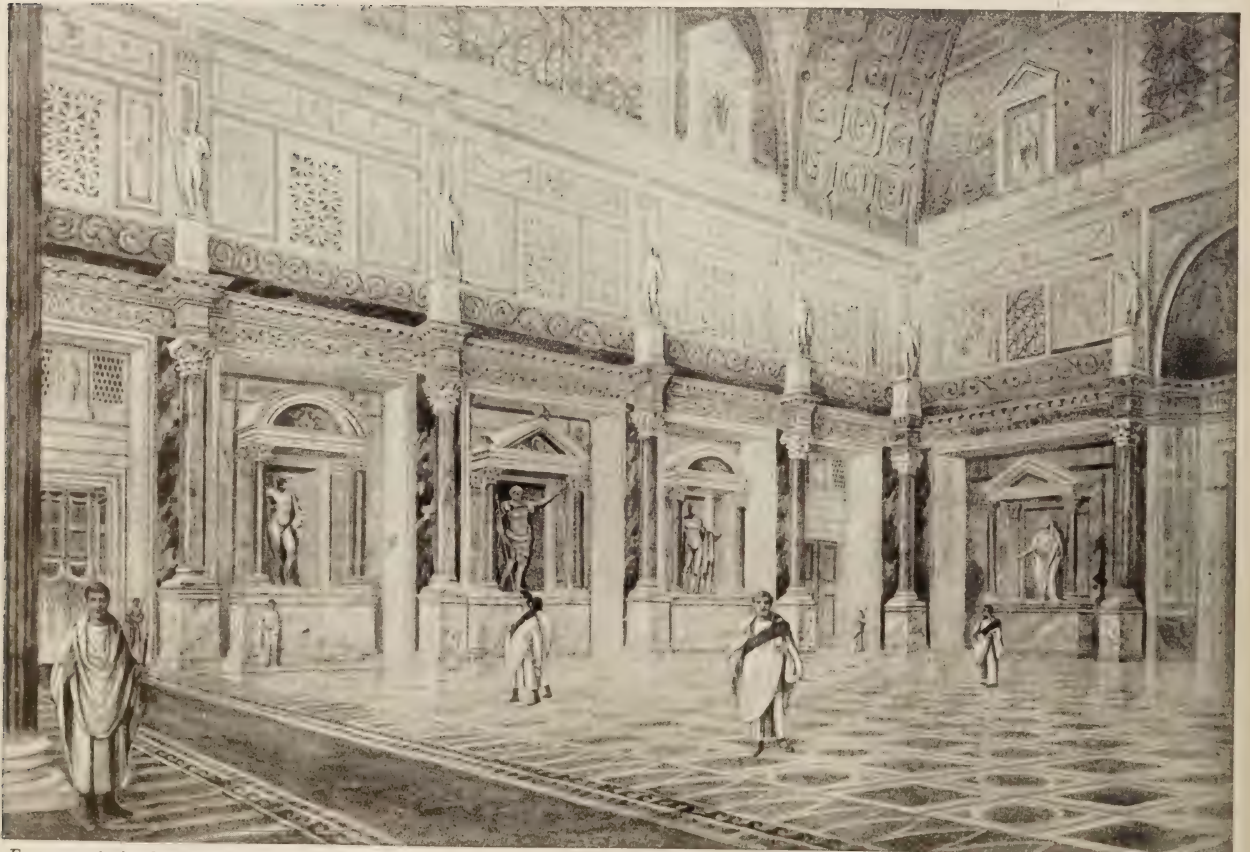
PORTICO OF THE TEMPLE OF FAUSTINA AND ANTONINUS

After the death of his wife Faustina in A.D. 141 the Emperor Antoninus erected a temple to her; and after his own death in the year 161 his name was added to hers in the inscription. Of this temple, which stood at the eastern end of the Forum and to the north of it, only a portico of ten lovely columns of Eubœan marble is visible, the interior of the temple being now occupied by the Church of San Lorenzo in Miranda.



PALACE OF DOMITIAN ON THE PALATINE HILL TO-DAY

The Palatine Hill has achieved etymological immortality by passing into the common language under the form of "palace." The Palace of Domitian here shown restored and in its present state was one of the magnificent structures by which it gained this repute. But where now are the costly marbles from Paros, Eubœa, Numidia, Pentele, the statues in their niches, the mosaics, frescoes, and tessellated pavements, and the gilded bronze?



From a painting by E. P. Wüschel-Becchi after designs by G. Trabacchi.

GREAT HALL IN THE PALACE OF DOMITIAN AS IT WAS

Above the pillared walls is a highly ornate cornice, surmounted again by a band of frescoes and a roof of panelled vaulting.



Photo by Boyer d'Agen.

CAPITOL AND TEMPLE OF JOVE AS THEY APPEARED FROM THE PALATINE HILL

The Capitoline Hill lies immediately behind the western end of the Forum Romanum, and is divided into two eminences, of which the southern was called the Capitolium and the northern the Arx, or citadel. It was on the Capitolium that the Temple of Jupiter Capitolinus (seen above) once stood; it was of an unusual shape, having three distinct cellæ dedicated respectively to Jupiter, Juno, and Minerva. Founded in 509 B.C., it was three times rebuilt, in the days of Sulla, by Vespasian, and by Domitian.



From a reconstruction by G. Gatteschi.

COLUMNED GRANDEUR OF HADRIAN'S VAST TEMPLE TO VENUS AND ROMA

At the opposite end of the Forum to the Capitol, on the north of the Sacred Way beyond the Arch of Titus, stood the double Temple of Venus and Roma, with its two cellæ back to back, and facing towards the Colosseum and the Forum. A mighty structure, it was designed by the Emperor Hadrian himself, begun in A.D. 121 and finished in A.D. 138; at either end were porticoes of ten columns each, and the whole stood upon an artificial platform surrounded by a colonnade of 180 columns.



Photos by Boyer d'Agén.

SHOPS AND SHOPPERS IN A BUSY ROMAN STREET ON THE PALATINE HILL

At the point where the Sacred Way passed under the Arch of Titus, coming from the Forum, a road known as the Clivus Palatinus branched off to the right and led up a narrow valley in the Palatine Hill to the vast complex of imperial buildings at the top. The photograph shows the site of this street to-day as seen from the Arch of Titus; while the reconstruction has peopled the same spot again with all the bustle of Roman street life. Note especially the wayside fountain on the right: the article on Pompeii has made familiar the excellent water-supply of Roman towns.

that we mean by Europe, of all that we mean by civilisation. No other city in the world has half her claim upon our allegiance. She is the mother of us all. When she created Europe, the British, too, in their far island, became a part of that which she had made; and that unity which was the Roman Empire was not only unquestioned but so unquestionable that every province of that great administration thought Roman thoughts and moved in a single polity which, for years after its material dissolution, men could not bring themselves to believe had passed away. Finally, to crown all, in the moment of her maturity, she accepted the Christian religion and philosophy.

To obtain some vision of Rome on the eve of that great decision which determined the future of mankind, let us imagine two men coming up the Via Appia from Brindisi to Rome. One of them would in all probability have been a Christian, though perhaps not openly. On the fifth day of their journey in their light travelling carriage they would first come in sight of the city and the marvellous panorama we still see to-day over the tragic majesty of the Campagna, across which stretched the mighty aqueducts—the Aqua Marcia and the Aqua Claudia—the bases of the Alban Hills and the blue Sabine Mountains, with lonely Soracte in the distance—surely the most noble landscape in the world—being clustered round with villas and gardens. Presently the ancient road would begin to be enclosed with tombs, as indeed was every road leading to a Roman city; at the sixth milestone the Casale Rotundo or Cotta's tomb, probably raised by Messala Corvinus, the poet and friend of Horace, to his son; then the old villa which we know as Roma Vecchia; and then the vast mausoleum of Cæcilia Betella, whose circular structure, sixty-five feet in diameter, still fills us with astonishment.

Perhaps as they approached the city thus in the earliest dawn they would hear the song which Pliny heard, caught and struck, in spite of himself, by its freshness and blitheness, the sound of children's voices, as the Mass was sung in the sanctuary of some great neighbouring villa, about which, in the catacombs underground, the dead lay, thousand upon thousand, no longer without hope.

The way would be noisy now with business, and there would be a great throng about the gate—the Porta Appia, where they

would alight, for one seldom drove within the walls. Just outside the gate, still in all its splendour, stood a temple and grove of Mars, on high ground and approached by an avenue. Within the gate, where the aqueduct crossed the paved way, they would pass under the Arch of Trajan which still stands there, though then it was splendid with marble, with presently the tomb of the Scipios on their right, and so, the way now thronged with people on foot or in litters, they would come, where the Arch of Drusus crossed the way, to the vast Baths of Caracalla on their left, as large as a town, and capable of accommodating more than 1,600 persons at a time.

Perhaps they would turn into these baths for refreshment after the dust and weariness of the journey. They would be welcomed at their entrance by the "ostiarus," or porter, then as now chosen for his size, and by the "capsarius," or wardrobe-keeper, who would take charge of their wraps. There they would find and greet their friends and acquaintances, hear the news, and read the newspapers or "Acta Diurna." They would select the kind of bath they desired, cold, tepid, warm, shower, or perspiration bath. The bath over, they would then take a walk up and down the beautiful grounds, while others, less weary, would indulge in athletic sports, or gymnastics, to prepare for the delights of the table. After the luxurious meal, these gigantic thermæ could supply every kind of entertainment. There were libraries, concerts, literary entertainments, readings of the latest poems or novels, popular shows, or just conversation with one's friends, and not least with one's women friends.

These baths, vast and magnificent though they were, were by no means the only thermæ in the city, or even the largest. The Baths of Agrippa, of Nero, of Vespasian, and Titus were already in existence when they were built, and the Baths of Diocletian were even larger. The thermæ were, in fact, more than baths, they were vast, but not exclusive, institutes. We have nothing to compare with them in any city of the world to-day. They bear witness to a social civilisation far beyond our own. These Baths of Caracalla, for instance, were a mile in circumference, and were open at certain times for the free use of every citizen. The vast domes were covered with magnificent mosaics, and the walls lined with precious marbles from Egypt and



From a painting by E. Forti.

RECONSTRUCTION OF A SCENE IN THE CIRCUS MAXIMUS WHERE THE FACTIONS STROVE IN CHARIOT OR ON HORSEBACK

The Circus Maximus lay south of the Forum Romanum with its major axis north-west and south-east. It was built, it is said, by Tarquinius Priscus in the days of the Kings, and last restored by Theodorici the Ostrogoth (A.D. 483-526); and between these dates the alterations and adornments showered upon it were many and magnificent, so that at the height of Rome's splendour it was the most sumptuous building in a sumptuous city. To-day but little of it remains—one end is occupied by gasworks! But the number of its seats was once, it is estimated, about 200,000. It was the scene of the horse and chariot races over which party spirit ran so high, and on the day of a race-meeting, the whole area gay with the white and blue and red and green of the contending factions and the towering structures of the Palatine behind aglitter with marble and gold, it must have presented a scene unrivalled to-day for colour and gaiety.

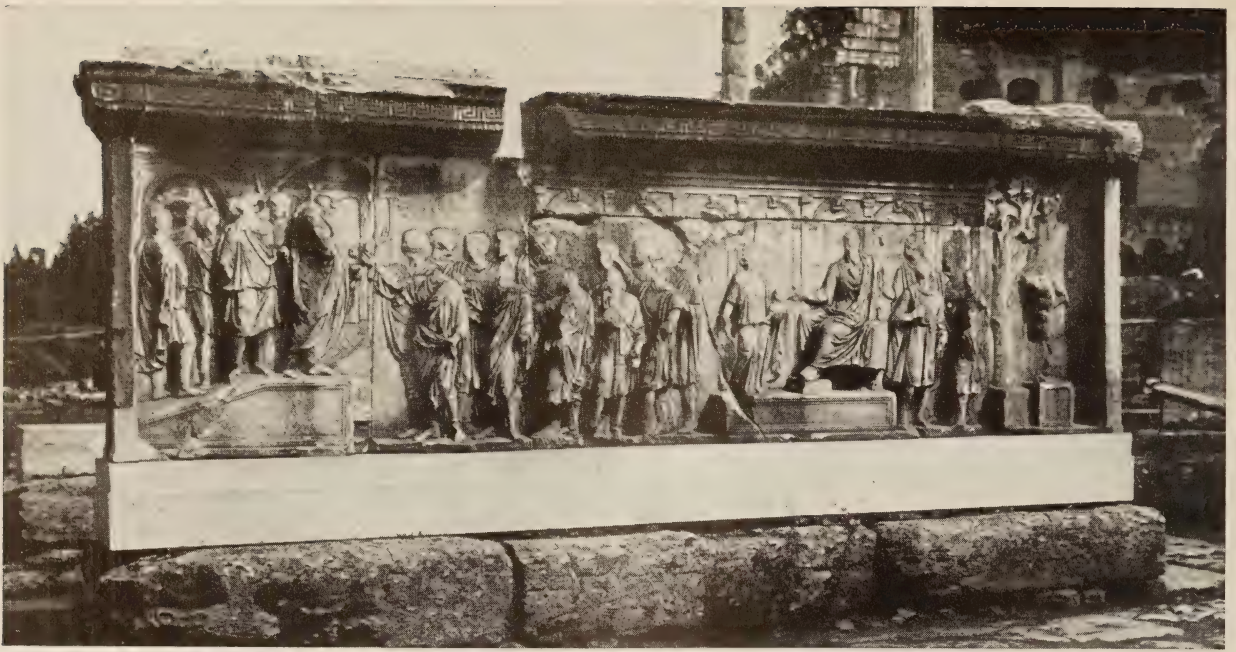


Photo by Donald McLeish.

ACKNOWLEDGMENT IN ENDURING MARBLE OF A ROMAN EMPEROR'S BOUNTY

Two incidents in the reign of the Emperor Trajan seem to have moved the gratitude of the Romans so much that they engaged the art of the sculptor—unless we may trace the finger of the Emperor himself in these representations! Marble balustrades from the Forum give the two scenes: the formal remission of debts from individuals to the State, and the investing of an endowment for the education of poor children (shown here).



Photo by Donald McLeish.

SACRED CISTERN AND STATUES IN THE COURT OF THE HOUSE OF THE VESTALS

Beyond the eastern limit of the old Forum, and on the southern side of its later extension, was the House of the Vestal Virgins, with its courtyard. The duty of these maidens, six in number and chosen from the highest patrician families, was to keep burning the Sacred Fire in the Temple of Vesta; marriage was permitted them after thirty years of service, but for unchastity before that time they were buried alive. In this photograph may be seen the Sacred Cistern in the courtyard and statues of Head Virgins of the second and third centuries; on the left, arches of the Basilica of Constantine.



IN HONOUR OF CONSTANTINE: BEST PRESERVED OF ROME'S TRIUMPHAL ARCHES

The sculptured arch spans the Via Triumphalis a short distance from the Colosseum, thereby corresponding roughly to the Arch of Titus on the Via Sacra, and was erected to commemorate the victory of Constantine over Maxentius in A.D. 312. Such of the sculptures as date from that period show an obvious decline in art; but some earlier buildings were partly employed for its construction, so that many of the features are of excellent workmanship. The arch itself has three openings.



Photos by Anderson.

SOME OF THE THREE HUNDRED TOWERS ON THE WALLS OF AURELIAN

The walls of Rome have been several times extended, from the old fortification of the Arx and the Palatine, and the wall of Servius Tullius enclosing the Seven Hills on the left bank of the Tiber, to the inclusion of the Janiculum and the Vatican Hill on the right bank, and the Walls of Aurelian begun in A.D. 271 and completed in 276. This photograph shows a section of the Aurelian Walls; much of the work is original, but subsequent Emperors and Popes have restored or destroyed extensively.



Photo by Donald McLeish.

ARCH OF TITUS WITH PANEL SHOWING GOLDEN SPOILS FROM THE TEMPLE AT JERUSALEM

The position of the Arch of Titus has been indicated in many of the restorations of the Forum Romanum. The nature of the carvings on it (see the right-hand photograph) leave no doubt that it was erected to commemorate the fall of Jerusalem in A.D. 70, but the application of the title "divus" to the Emperor Titus in the inscription indicates that the building was dedicated after his death in A.D. 81. The arch was constructed of Pentelic marble and has two Corinthian columns on either side, above which runs a frieze of soldiers; in the space between gateway and frieze are Victories and figures of Rome and Fortune; and under the arch are the spoils of Jerusalem, including the seven-branched candlestick, while in the corresponding panel, not illustrated here, the Emperor himself is shown in his chariot.

Numidia. Even the pipes and taps and fittings generally were of silver and bronze, while in the various halls and porticoes stood many famous statues—the Farnese Bull, the Venus of the Capitol, the Venus Callipyge, the Hercules and the Flora of Naples, the Dionysus of the British Museum. It was not uncommon for a rich man to bequeath a sum of money to throw open the baths to all for a day, or a week, or even for ever.

From the Baths of Caracalla, following the Via Appia past the Temple of Virtue and Honour, and under the Cælian Hill, one would presently come to the Porta Capena. In front rose the Palatine Hill, covered with the glorious Imperial Palaces, gleaming in the sun, tier after tier of white marble, touched here with gold, there with the colours of infinitely various and precious marbles and loveliest gardens; and facing the Porta Capena the Septizonium, the seven-zoned structure of Septimius Severus, which formed the façade on this side for this hill of palaces. Beneath lay the great Circus Maximus, in the narrow valley between the Palatine and the Aventine, even then dark with groves of ilex.

Turning here to the right, still following the Triumphal Way, between the Palatine and the Cælian Hills, at the end of the vista might be seen the great Triumphal Arch of Constantine, and beyond, towering into the sky, what Gibbon calls the “awful majesty of the Flavian Amphitheatre,” the Colosseum, with which, so mighty was it, our own half barbarous ancestors were wont to confound the very city itself, the destiny of Rome.

While stands the Colosseum,
Rome shall stand;
When falls the Colosseum
Rome shall fall;
And when Rome falls—
The world.

As one passed up that way towards the arch and the vast structure which dwarfed it, one might note on the right, on the summit of the Cælian Hill, the Temple of Claudius, surrounded by a beautiful shining colonnade of marble. On the left of this Way of Triumph, at the foot of the palaced Palatine, lay the vast Hippodrome, and beyond, the lovely porticoed Temple of Apollo.

Beyond the arch what a spectacle met the sight! Nothing in our world is comparable with it, and be sure it outshone all our imagination can build of what it was in the days when it stood complete.

Beyond the flashing, uptossed waters of the Meta Sudans, a great fountain, of which only the brick core now remains, towered up the vast Flavian Amphitheatre, encased in marble and bronze. It seems to have been the most astounding, though not certainly the most beautiful, thing in the city, and it is still the most amazing ruin in the world. It had been begun by Vespasian in the gardens of the Golden House of Nero. Without, it consisted of four arcades, the first Doric, the second Ionic, the third Corinthian, the fourth a wall upheld by Corinthian pilasters and pierced with windows. Within, the walls were lined with seats, tier above tier. Around the arena stood a high, massive wall, and above this was the pavilion where the seats of honour were placed for the Emperor and his family, for the Vestal Virgins, and the great officers of state. Above, again, were the seats for the senators, the magistrates, the military knights, and then for the male citizens. The women sat in the highest part of the building under a colonnade. The whole, capable of holding 50,000 persons, was sheltered from sun and rain by an awning supported on masts, and the arena could be flooded with water for naval fights. It became the monstrous stage upon which Christianity faced Paganism and all that the Colosseum stood for, its cruelty and indifference, and overthrew it for all time.

A little to the west of the Colosseum stood that Colossus, thirty-one metres high, which Nero had raised in his own likeness in bronze, and which Vespasian changed into a statue of the sun, for it was all covered with gold and stood upon a huge pedestal. Turning away from the vast theatre where agony and death were staged as a spectacle to amuse the populace, one gazed down the Sacred Way, to the Triumphal Arch of Titus, past the noble portico of the Temple of Venus and Rome.

This great temple, which stood on the low hill at the bottom of the Forum facing the Capitol, was a double temple, the largest and most magnificent in Rome. It stood on an enormous platform, 145 metres long and 190 wide, on the north side of the



Photo by Donald McLeish.

ONCE A TEMPLE, NOW A CHURCH: THE PANTHEON AS IT IS TO-DAY

Eight granite columns support the pediment of the portico, with eight more in two rows behind, giving a frontage of 37 yards and a depth of 15. Through continual raising of the surrounding soil the base of the structure is now below the level of the ground. It was originally dedicated to those gods who were connected by legend with the ancestry of the powerful Julian family.



Metropolitan Museum of Art, New York City.

THE PANTHEON AS IT WAS WHEN ROME WAS MISTRESS OF THE WORLD

Mystery shrouds the original construction of the Pantheon. Though persistently attributed to Marcus Agrippa (27 B.C.), it is now supposed that the present structure is of much later date, only the portico dating from his time, as the inscription states. In any case, it is the most wonderfully preserved of all Rome's monuments, a fact which it owes to its dedication as a church in A.D. 608. The building, as this reconstruction shows, is circular and crowned with a dome; its only light is admitted through a hole in the top.



INTERIOR OF THE PANTHEON IN PAGAN TIMES

The interior of the Pantheon is of majestic and harmonious proportions, being roofed by a dome whose spring starts from a point half the total height from the ground; this height—142 feet—is, moreover, the same as the span of the dome. In the 20-foot walls are three apses, the place of the fourth being taken by the door, and four recesses, symmetrically placed; and in the eight resulting spaces are small shrines. Above this run two cornices between which is now a row of fourteen empty niches not shown in this reconstruction, and from the upper springs the dome.



THE FORUM ROMANUM AS IT WAS IN THE DAYS OF THE CÆSARS

In preceding pages have been given restorations of the western end of the Forum Romanum; this is a view of the same Forum looking east, with only the Basilica Julia left unrestored in the foreground to give an uninterrupted view. The plain-fronted building on the left is the Curia, or Senate-house, with part of the Arch of Severus on its left and the Basilica Æmilia on its right. Between the Basilica and the Temple of Julius Cæsar at the end is the Temple of Antoninus, with the Basilica of Constantine behind.



Photos by Boyer d'Agén.

CENTRE OF THE FORUM ROMANUM AS IT APPEARS TO-DAY

On comparing this illustration with the one above the reader will note the good preservation of the Curia. This is only apparent, as after it had been dedicated as a church it was rebuilt several times in much the same form. In the centre is the Column of Phocas, which does not appear in the reconstruction as it belongs to a later date (A.D. 608). On the extreme right of the reconstruction may be seen the façade of the Temple of Castor and Pollux, but the only three columns remaining are not included here.



From a reconstruction by R. Lanciani.

SOUTHERN CORNER OF THE FORUM ROMANUM AND PALACE OF TIBERIUS

The centre of Roman civic life was the Forum Romanum; though Emperors might give their names to later and more magnificent enclosures, the older Forum could never lose the sanctity of established custom. In this reconstruction, from the left, are the Temple of Venus and Roma, the Temple of Julius Caesar with the Rostra Julia below, the Temple of Vesta, the Temple of Castor and Pollux, and the end of the Basilica Julia; while the palatial building in the background is the Domus Tiberiana on the Palatine.



Photo by Donald McLeish.

EASTERN END OF THE FORUM ROMANUM, WITH ARCH OF TITUS IN THE DISTANCE

In the foreground are the original blocks of the "Via Sacra," or Sacred Way; not far beyond where they cease was the limit of the Forum Romanum. Originally the road curved to the left and led round in a semicircle to the Arch of Titus, seen in the background. On the left of the photograph are pillars of the Temple of Antoninus and Faustina, and next come two broken dedicatory columns. To the left of the Arch of Titus part of the Colosseum is just visible, and in the right foreground are the three lonely columns of the once magnificent Temple of Castor and Pollux.

Sacra Via. On the platform was a great colonnade consisting of a single row of enormous columns of grey Egyptian granite at the sides, and a double row of columns at the ends. At the west end was a single wide flight of steps; at the east end were two smaller flights, facing the Colosseum. It was so large that it seemed to be not merely a temple, but one of the tremendous imperial Fora.

At the south-west corner of this vast building stood across the Sacra Via the Triumphal Arch of Titus, ennobled with great sculptures in relief telling of the fall of Jerusalem. The Sacra Via, or Sacred Way, was the oldest and most famous street in Rome. It ran from the shrine called the Sacellum Streniæ in the Colosseum valley, beside the Temple of Venus and Rome, close under the southern colonnade, and passed under the Arch of Titus through the Forum. It was about five metres wide, and beside it stood the most ancient and sacred shrines of the Roman people. It led to the Capitol and the Temple of Jupiter Capitolinus, and was the ceremonial way followed by every dictator and every emperor who had been accorded a triumph. It was about as full of sharp turns as the way through the Mall and the Horse Guards Arch to Westminster Abbey from Buckingham Palace—to compare great things with small—and it fell more sharply beyond the Arch of Titus than that road does anywhere in its course. The climb up to the Capitol must always have been far more formidable than the climb up Ludgate Hill to S. Paul's Cathedral.

The view from the Arch of Titus towards the Capitol must have been one of the most noble in Rome. The palaced height of the Palatine, covered with the most splendid buildings in the world, stood to the south. To the north appeared the immense arches and enormous bulk of the Basilica of Constantine. Before one lay all that was greatest and most ancient in Rome, the Capitol, crowned by the mighty temple of Jupiter; and in the valley before one the vast atrium of the Vestal Virgins, their ancient circular fane, the Regia, the Temples of Romulus and Antoninus and Faustina; and beyond, the Forum itself with the Rostra, the Basilica Æmilia to the north, the Basilica Julia to the south; and beyond, again, the Temples of Saturn, of Vespasian, and of Concord under the Capitol, with the Triumphal

Arch of Septimius Severus beyond the Temple of Janus on the north side. Terrace upon terrace, portico upon portico, temple heaped on temple, forum passing into forum, innumerable columns beyond innumerable columns, till the eye, amid the ordered medley of glorious stone, found the Column of Trajan in the beautiful Forum of the Emperor, towering on high over another series of temples, which would seem to have been as numerous as churches are in the modern city.

It would be impossible, in the space of a single article, to consider all these buildings, even in the most superficial manner. We must be content here to name them. But in the space between the Arch of Titus and the Forum, which the *Sacra Via* entered at the *Fonix Fabianus*, two or three great buildings cannot be passed over. The enormous Basilica of Constantine, called the Basilica Nova, was rather the work of Maxentius than of Constantine. The Basilica, which stood on a vast platform, was of peculiar form, consisting of a central nave 80 metres long, 25 wide, and 35 high—higher, that is, than the nave of Westminster Abbey, the highest Gothic nave in England. The two side aisles were each 16 metres wide. The façade was towards the east, but Constantine erected a second entrance in the middle of the south consisting of a porch with porphyry columns approached by a long flight of steps. Opposite this new entrance he built a second semicircular apse in the north wall, the original apse being in the west wall. The walls of brick, six metres thick, the huge porphyry columns, the enormous height and space, made it one of the most remarkable buildings in the whole of Rome.

On the west, beside this great Basilica, Maxentius built a temple in honour of his son Romulus. In the rear of this stood the *Templum Sacræ Urbis*, the two temples being converted in the sixth century into the Church of SS. Cosma and Damiano. A much earlier building, dating from the best years of the Empire, stood beside the Temple of Romulus—the Temple of Antoninus and Faustina. It had lovely cipollino (or granular limestone-mica) columns 17 metres high, with Corinthian capitals of white marble supporting an entablature also of white marble surrounding the whole building.

In front of this temple, on the other side of the Sacred Way, stood the *Regia*, said to date from Numa, and to have been the



Specially coloured for "Wonders of the Past."

TEPIDARIUM OF THE BATHS OF CARACALLA IN ITS PRISTINE BEAUTY

house of the Pontifex Maximus. It remained his headquarters. He was in some sort the governor of the Vestals. Beyond this therefore, southward, and like it within the extended Forum, stood one of the most famous buildings in Rome, the Atrium of Vesta and the Temple of Vesta. Though not a consecrated temple, it was the most sacred spot in Rome, round in form, and contained the sacred fire, the Palladium, and other sacred things. It was built of white marble, with twenty fluted columns connected by bronze gratings. The roof was dome-shaped, with an opening in the centre for the exit of the smoke of the Sacred Fire. Near the temple were statues of an ox and a ram.

Beside the temple stood the Atrium Vestæ, the House of the Vestals. It consisted of an open peristyle surrounded on all sides by rooms on two and three storeys, the central court, 69 metres long and 24 wide, being surrounded by a colonnade of forty-eight Corinthian columns of cipollino. Beyond the temple, from north to south, stood the Temple of Julius, behind the Rostra Julia, where the body of Cæsar was burned, the Arch of Augustus, the Temple of Castor, and the Temple of Augustus right under the Palatine Hill. All three temples were surrounded and upheld by columns of marble.

We now come into the Forum proper, the centre of the life of the city. One can imagine it thronged with noisy crowds, as now it is overrun by the silent wild flowers *Commendatore Boni* has scattered there. Here all the famous men of the great Roman story have passed by and paused and debated. Here Horace met his bore. The noble and sacred space, sacred to human liberty, was framed by the columned Basilica Æmilia and the Curia Julii on the north, the great columned Basilica Julia and the Temple of Saturn—the latter the most holy place in Rome after the Temple of Vesta—on the south. Between them stood the Arch of Tiberius.

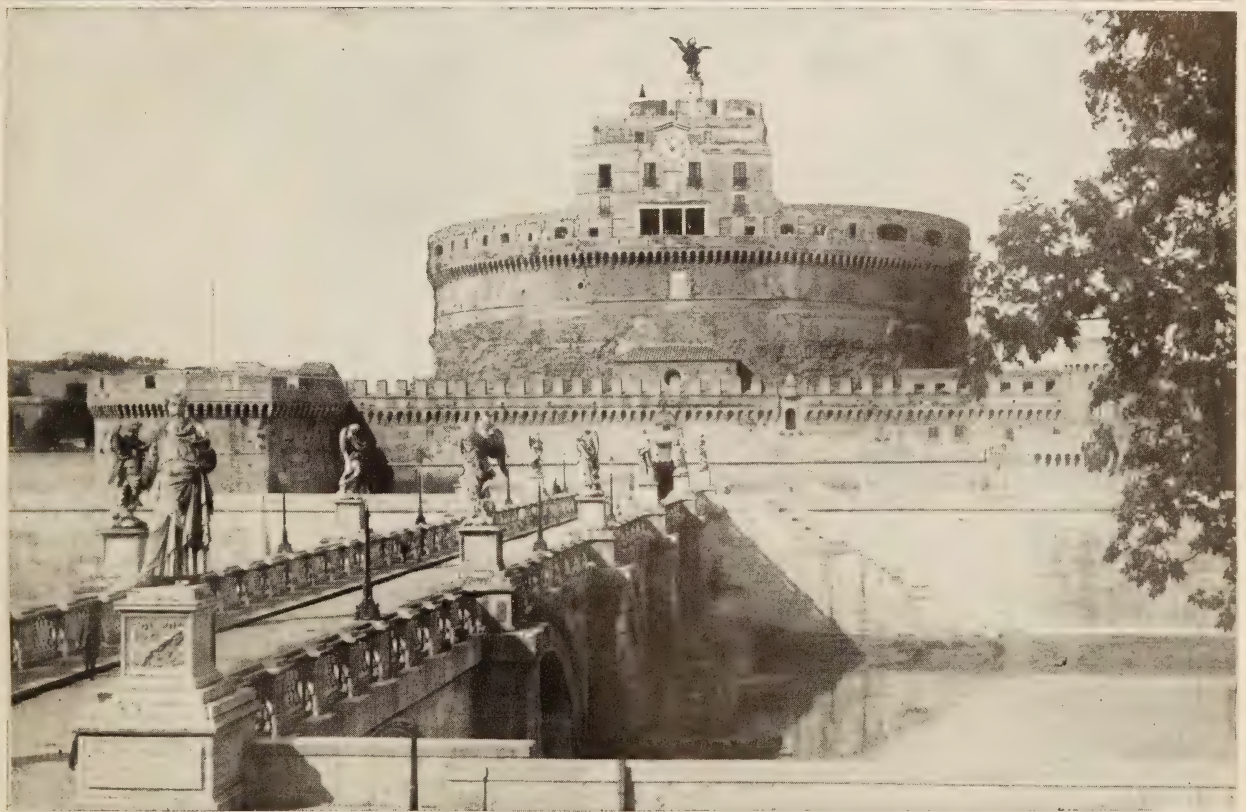
Then, under the Capitol itself, stood from south to north the columned Porticus Deorum Consentium, the columned Temple of Vespasian and the Temple of Concord with its great columned portico. In front stood the great Rostra facing the Forum, and above, on the Capitol, the great columned Tabularium. To the north, on the height above, stood the Temple of Juno, where now Ara Cœli stands. To the south, on the similar

height, stood the Temple of Jove, where Palazzo Caffarelli stands to-day.

Standing there and gazing out over what may be called the greatest of all human achievements—the City of Rome, the soul of the Empire, the creator of Europe—the whole of the heart of that unequalled and incomparable thing lay at one's feet: the Forum and the Sacred Way filled and encompassed with columned temples and basilicas of marble shining in the sun, away to the vast Colosseum. To the south stood up all the beauty of the Palatine, with its infinite palaces of marble, and its gardens and laurels and ilexes and fountains, its gold and precious stone. To the north lay the exquisite and perfect Forum of Trajan, with its sky-kissing column, itself surrounded by other Fora scarcely less lovely, the Forum of Augustus to the west, the Forum of Vespasian beyond it, the Forum of Julius to the south, and across them lay the vast columned Basilica Ulpia, close by the Temple of Trajan, the Temple of Mars, and the Temple of Peace. Thousands of men have gazed upon that sight which we shall never see, and loved it above everything, yet none guessed perhaps that he was looking upon something that would fall and decay and disappear as utterly as the leaves fall and are dust. Nothing that man has made since is comparable with it; beside it Paris is a mere hut village, London nothing more than a mole's labyrinth.

Did a man never muse there, as the sun set and the shadows passed from column to sun-kissed column over the beloved city; did a man never dream that as the sunlight passes, as the shadows pass, this too would pass away? No man would have dared to dream just that. For Rome, Eternal Rome, lay there under his eyes with the whole world in her embrace—yes, her embrace, for we were all her children and to her owe everything. No, she cannot pass away—she is the Eternal City. As the shadows fall we too may see lying across the city that darkest shade which has the form of a dome and is still upreared in the name of a universal government, heir of the Imperial, enthroned in the hearts of men.

And when one has seen all this from the Capitol as in a dream, and when one has seen the ruin of it with these mortal eyes—the Forum a brickfield, covered with wild flowers, the Palatine an incredible ruin among which is a wilderness of roses



A WAR-SCARRED TOMB, THE CASTELLO SANT' ANGELO BY THE TIBER

A history of the vicissitudes through which this building passed since it was converted into a castle would be a history of the Middle Ages. But in the days of Imperial Rome it was a tomb, built by Hadrian about the year A.D. 130 to contain the bones of himself and his descendants. The reconstruction (top) shows that it consisted of two diminishing circular structures surrounded by pillars, on a square base, the whole being surmounted by a conical roof. In some ways it reminds one, therefore of the traditional shape of the Lighthouse of Pharos.



Photo by Donald McLeish.

FORTIFIED TOMB ON THE APPIAN WAY

Standing by the great Appian Way is the mighty tomb of Cæcilia Metella, daughter of Quintus Cæcilius Metellus Creticus and wife of Crassus, son of the Triumvir. Like the Sant' Angelo castle it is circular, resting on a square base, and was similarly used as a fort in the Middle Ages. The tower is 65 feet in diameter, and there is evidence that the roof was conical before it was replaced by battlements.



Photo by Donald McLeish.

ALTAR TO AN "UNKNOWN GOD"

On the west of the Palatine Hill stands a strange little altar with an antique inscription dating from about 100 B.C. "Sei Deo sei deivæ sac[rum]"—sacred to an unknown god or goddess. The Sextius Calvinus who restored it was probably the prætor who founded the town of Aquæ Sextiæ.



By permission of the Berlin Photographic Co., London, W.

AUDIENCE GRANTED BEFORE THE HALL OF THE HOUSE OF AGRIPPA

Before the house of Agrippa, the sturdy general and minister of Octavianus Augustus, first Emperor of Rome, an interview is about to be granted to an Eastern ambassador. At his side, beneath the statue of Augustus, stands a servant with water and ewer, while the interpreter whispers that Agrippa is even now descending the steps. Scribes are ready at their table to take note of the proceedings. In this picture Sir Lawrence Alma-Tadema has caught the simple majesty of the Ancient Roman on state occasions.



Photos by Ewing Galloway and Donald McLeish.

RUINS OF THE BATHS OF CARACALLA, FROM WITHIN AND FROM WITHOUT

A Roman bath was something moderns do not possess—gymnasium, turkish-bath, restaurant, and club in one—and all carried out in a spirit of sumptuous lavishment beyond the dreams of latter day luxury. The baths mainly built by Caracalla, though begun by Septimius Severus in A.D. 206, were the most beautiful, though not the largest, in Rome. In the lower photograph may be seen portions of their tessellated pavement and fragments of mosaics fallen from the upper storeys. They had room for 1,600 bathers.

—one has seen but a part of that incomparable whole which was the Rome of the Emperors.

Far away to the south, on the top of the Esquiline Hill, rose the vast baths of Diocletian, vaster even than those of Caracalla of which I have spoken. To the south of them and not far from the Colosseum rose the Baths of Trajan. Nor were these all. Under the Quirinal stood the Baths of Constantine, and about the Pantheon to the west of the Via Lata, the medieval and modern Corso, stood the Baths of Nero and the Baths of Agrippa.

The Pantheon, which in its main part stands and remains the chief, if not the only, Roman building still more or less intact and in use, was begun by Agrippa in 27 B.C. and, with the Baths, the stagnum and Euripus, formed the great group of public buildings he founded in this part of the Campus Martius. The Pantheon was a temple containing four statues and probably especially dedicated to the ancestral deities of the Julian family: Mars, Venus, and the deified Julius. The great dome is still one of the wonders of the world.

Vast mausoleums, too, rose in various parts of the city: the Mausoleum of Hadrian, the Mausoleum of Augustus. The former is still used as a castle—the Castello Sant Angelo—and in its huge strength and height and bulk no modern building, not even S. Peter's, is so impressive.

But when I have named all these—as though an ancient traveller from Barbary had recapitulated to his friends in a country far from Rome what had struck him most in the Mother City—what have I done to bring before the reader the greatness, the splendour, the majesty, the beauty, the living wonder and glory of Rome? Nothing. One must fill the streets and Fora of the Eternal City with Romans and Provincials, with slaves and Barbarians, with people from the whole world—for Rome was ever Cosmopolis. One must hear the noise of the great town, the confused voice of a vast multitude; one must stand in the Forum Romanum and see Cæsar go by in triumph, one must enter and see the senators in their curule chairs deliberating the destiny of mankind, a sight so august that, as we know, it appalled the barbarian; one must see sunrise and noontide and evening come in the ways of the city.

And I have said nothing of the gardens. Yet no modern

capital of Europe or America can be compared with Imperial Rome for the number and extent of its public parks and gardens. Lanciani tells us that the nine great parks of London, with a total of 2,000 acres, represent a thirty-ninth portion of the city's area, while those of Imperial Rome, lying over the chain of hills for two miles at least on either side the Tiber, represented an eighth. Rome was like a great white rose in the midst of these green leaves.

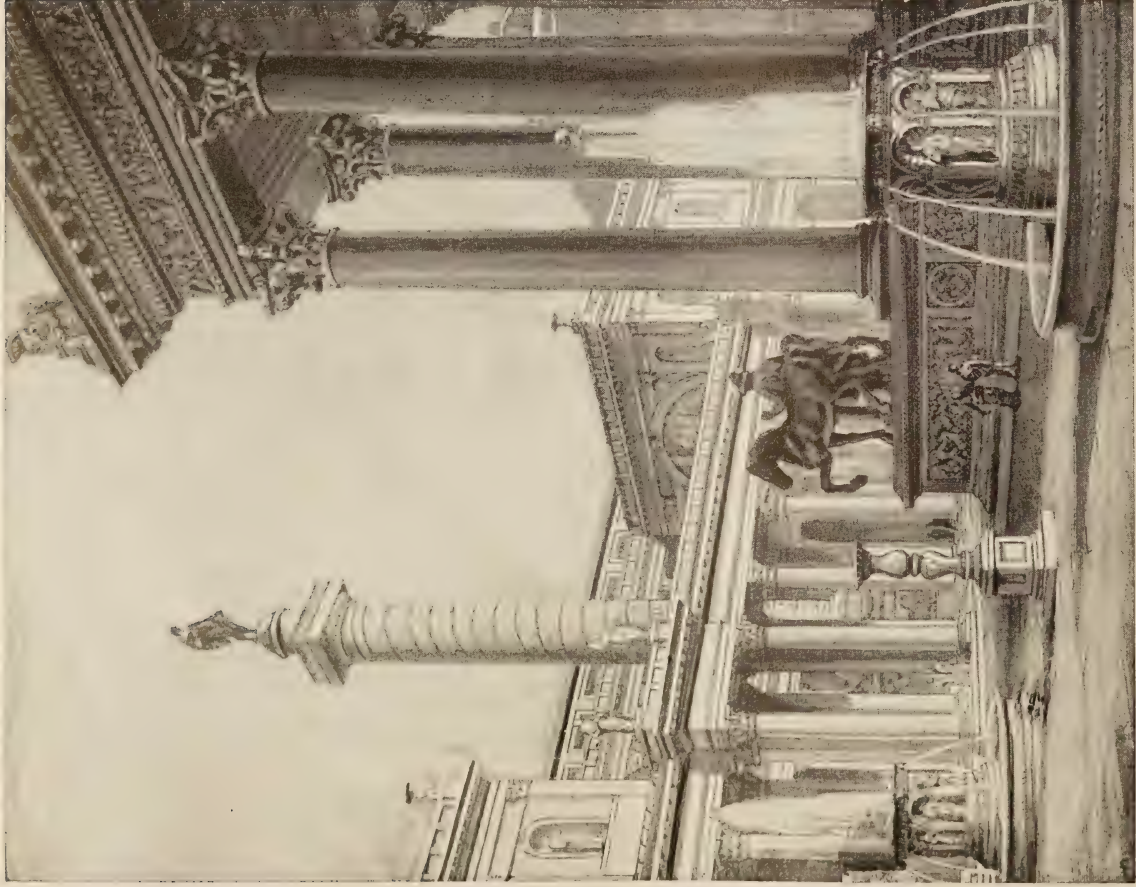
And so we must think of her in the confusion of our world to-day as the incomparable and visionary city, of which we hear in our earliest years, always as of something to be desired and sacred, whose history we learn as well as, if not before, our own, and whose title is Eternal. Men loved her then and have loved her since, even in her ruin, as no other city, not even Athens, was ever loved. She was the head and front of our world. She was the Capital.



Photo by Donald McLeish

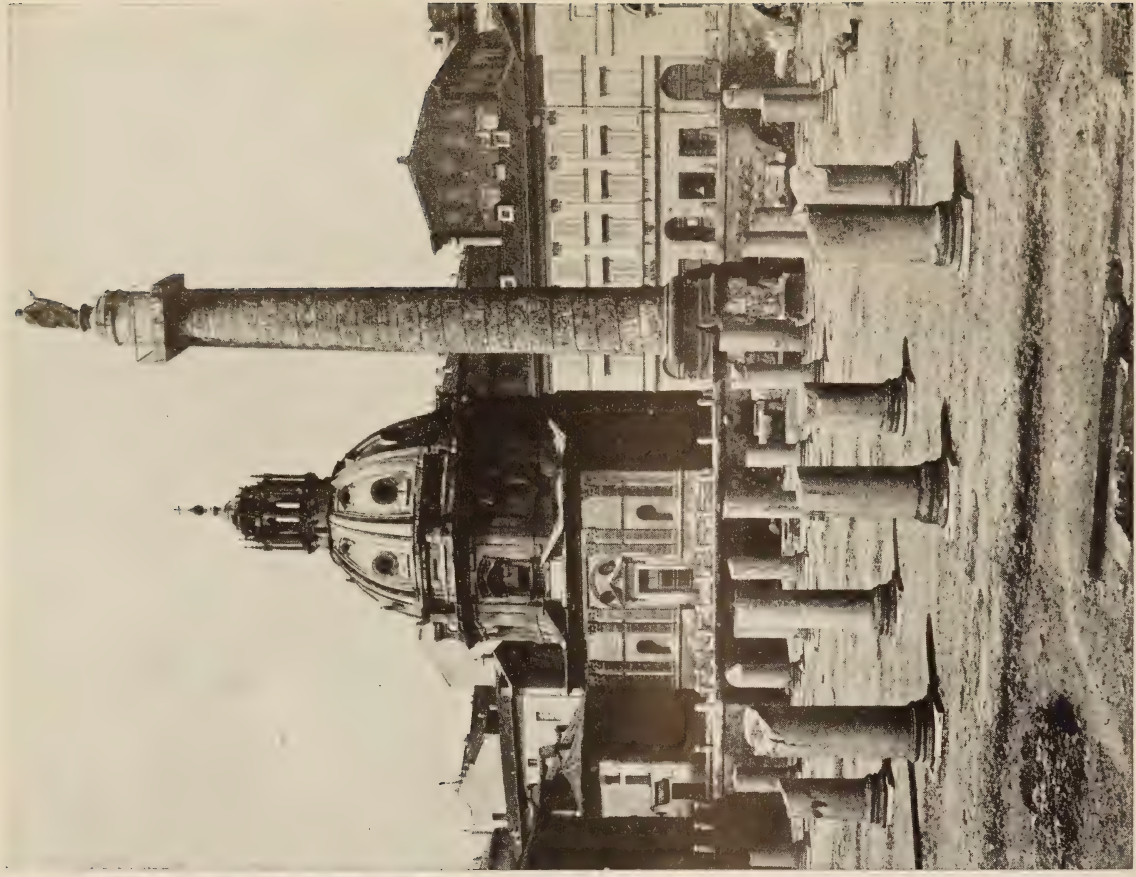
HOW TIME HAS DEALT WITH THE TOMBS OF THE APPIAN WAY

In ancient cities it was not usual to have burials within the walls, and many of those found in Rome itself were due to later extensions of the city area. Most thickly populated by the dead were the borders of the old Appian Way without the walls, laid down by Appius Claudius in 312 B.C.; among the tombs being that of Cæcilia Metella, and shown in the reconstruction in the distance, on the right of the road. Trees now grow among the shattered tombs.



FORUM TRAJANUM AND TRAJAN'S COLUMN RESTORED

After the successful issue of the Dacian war Trajan began the construction of the Forum known by his name between the Quirinal and the Capitol. It was completed in A.D. 114. Magnificent colonnades enclosed it on three sides and the Basilica Ulpia completed the fourth, beyond which could be seen the summit of Trajan's memorial column, which he never lived to see, as he died abroad before its completion.



THE COLUMN TO-DAY, WITH TRAJAN REPLACED BY S. PAUL

Trajan's column has suffered but little in the course of centuries, and the fine spiral reliefs of the Dacian wars which adorn it are still the best study for the military institutions of their day. The total height of the column including the base is 127 $\frac{1}{2}$ feet; the shaft itself being of the same height as that of Marcus Aurelius; and 34 blocks of marble went to its construction (18 to the shaft).

THE SEVEN WONDERS. IV
THE PHAROS OF ALEXANDRIA

By J. A. BRENDON, F.R.HIST.S.

THE PHAROS OF ALEXANDRIA

BY J. A. BRENDON, F.R.HIST.S.

Author of "The Story of the Ancient World," etc.

LIGHTHOUSES, of a sort, seem to have been known on the coast of Egypt before the time of Alexander the Great, and Lesches, a minor poet who lived about 600 years B.C., refers to one on the promontory of Sigæum, in the Troad. The Pharos of Alexandria, however, which was built by Sostratus during the reign of Ptolemy Philadelphus (285-247 B.C.), is generally accepted as the father of lighthouses, and it ranked as one of the Wonders of the World.

Constructed of white marble, the Pharos of Alexandria was built on a rock at the north-east corner of the island of Pharos, and, to facilitate the work of construction and maintenance, the island was connected with the mainland by a great causeway known as the Heptastadium. This causeway, owing to the conglomeration of silt which gradually has banked upon either side of it, is now an isthmus, thickly populated.

Whether the island took its name from the lighthouse, or the lighthouse from the island, is not certain. "Pharos," however, in various forms, has been adopted as the word for lighthouse in many languages. A lighthouse in Latin is pharus; in Spanish and Italian it is faros; in French phare; and pharos has not been obsolete for very long in English. The Romans copied their lighthouses directly from the Pharos of Alexandria—the pharus at Ostia, for example, and that at Carthage.

Pliny, the Roman historian, who perished at Pompeii when that city was destroyed by the terrible eruption of Mount Vesuvius in A.D. 79, has given us a description of the Pharos. He

wrote: "There is another building, too, that is highly celebrated; the tower that was built by the king of Egypt on the island of Pharos at the entrance of the harbour of Alexandria. The cost of its erection was eight hundred talents, they say; and not to omit the magnanimity that was shown by King Ptolemy on this occasion he gave permission to the architect, Sostratus of Cnidus, to inscribe his name upon the edifice itself. The object of it is, by the light of its fires at night, to give warning to ships of the neighbouring shoals, and to point out to them the entrance of the harbour. At the present day there are similar fires lighted up in numerous places—Ostia and Ravenna, for example. The only danger is that when these fires are kept burning without intermission they may be mistaken for stars, the flames having very much that appearance at a distance."

If the Pharos cost only eight hundred talents it was very cheap at the price, even allowing for the fact that slave labour was employed in its construction. Eight hundred talents would have been the equivalent of, say, £200,000 of English money. Sostratus, the architect, was a son of Dimocrates, the architect of Alexander the Great, and the inscription he engraved on the edifice was: "Sostratus of Cnidus, the son of Dimocrates, to the Saviour Gods, for those who travel by sea."

In connexion with this inscription, other writers have affirmed that Sostratus, being well versed in the ways of old-time princes, feared lest he might be required to make the building commemorate not his own, but his royal master's, fame. So, having finished his inscription, he covered it with a layer of cement, and in this made another inscription which glorified Philadelphus, but which the action of sea and weather soon removed.

Edrisi, an Arabian geographer of the thirteenth century, asserted that the Pharos was 600 feet high. "Its height," he wrote, "is three hundred cubits, taking three palms to the cubit, and so its height is one hundred statures of men." Another authority gives the height as 400 ells or 590 feet. Whatever may have been its exact dimensions, there can be no doubt that it was an extraordinarily lofty building.

It was built, after the Babylonian fashion, in the form of eight—or, according to some accounts, four—towers, or storeys, one above another, and each smaller than the one below it. The



Specially painted for "Wonders of the Past," after a reconstruction by F. Thiersch.

ANCIENT BEACON OF THE MEDITERRANEAN: THE PHAROS OF ALEXANDRIA

What the famous Pharos of Alexandria was like we only gather from descriptions by early travellers, and reconstructions by archæologists, upon which the above picture is based. One of the Seven Wonders, it was a structure of singular grace and beauty. Built by Sostratus of Cnidus, at the command of Ptolemy Philadelphus, its height is estimated to have been between 350 feet and 600 feet, while its light is said to have been visible 27 miles out at sea.



lower towers were square, and those at the top circular. A broad balcony, superbly decorated, surrounded the foot of each tower; and that the whole building might be imperishable, impervious to the incessant buffeting of the sea against its northern face, the blocks of stone were welded together, we are told, not with cement, but with molten lead.

At the summit a great brazier was kept constantly burning, "a pillar of fire by night, of smoke by day." For supplying this brazier with fuel the ingenious Sostratus made admirable provision. An inclined plane ascended the lower half of the building, and so gentle was the gradient that laden horses, and even chariots, could easily be driven up it. From the top of this roadway fuel was conveyed to the brazier by means of a windlass up a hollow shaft in the centre of the higher towers.

Of the interior of the Pharos little is known. It is said, however, to have contained three hundred spacious rooms, and to have housed a considerable garrison.

According to Arab tradition, the lighthouse was built on a foundation of glass. Before deciding on the material to use for the foundation, Sostratus, we are told, "threw stone, brick, granite, gold, silver, copper, lead, iron, glass, and all kinds of minerals and metals into the sea to test them. When they were taken out and examined, the glass alone was found of full weight and unimpaired." So glass was chosen—in great blocks.

In the eyes of the Arabs, who conquered Egypt in the seventh century, the most wonderful feature of the Pharos was the immense mirror at its summit. Legends assert that in it one could see all that was passing in the distant city of Constantinople, and that the glass could be turned to reflect the rays of the sun, and so burn ships while they were 100 miles out at sea.

Legends usually rest on some basis of fact. We can, therefore, liberally discount Arab imagination and still believe that Sostratus, by means of brazier and mirror, contrived to produce a light more powerful and penetrating than any devised by man until modern times; and that he anticipated the invention of the lens.

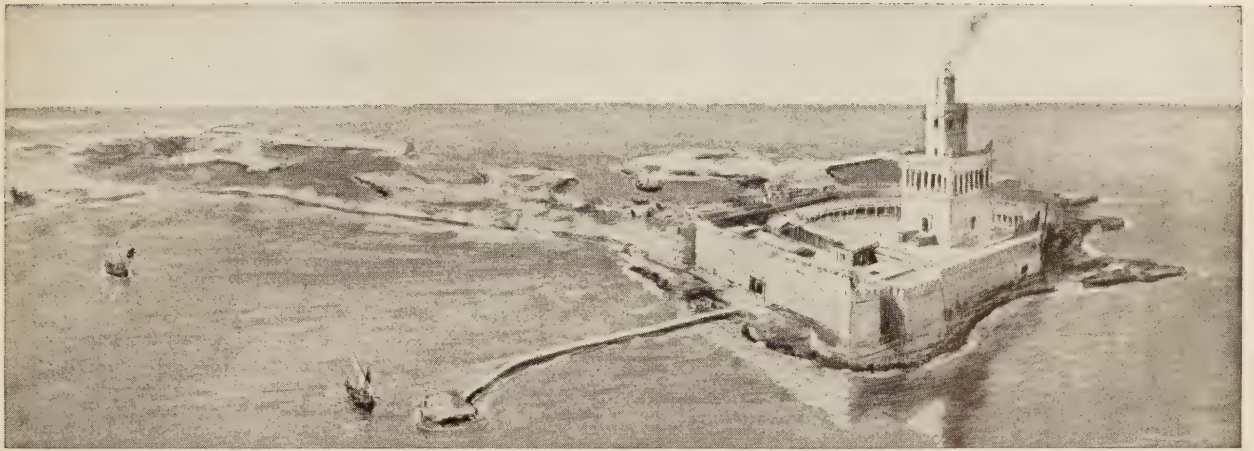
In the ancient world sheets of polished metal served normally as mirrors. The mirror of the Pharos is said to have been fashioned from transparent stone. Probably, however, glass was

the substance used; and such was the size of the mirror that the men who lowered it from its place, after it had been guiding mariners for a thousand years, had not the skill to replace it.

The Arabs, after their conquest of Egypt, continued for a long time to maintain the Pharos. Its light was finally extinguished as a result of a stratagem. In Mahomedan hands the Pharos served directly to help the enemies of Christendom. So, in the ninth century, the emperor sent an emissary from Constantinople to destroy it. This man wormed himself into the confidence of the Caliph, Al-Walid, whom he regaled with wonderful stories of treasure buried under the Pharos. The Caliph eventually, his cupidity aroused, gave orders for the building to be dismantled. Not until nearly a half of it had been pulled down did he suspect a plot. Subsequently the Arabs attempted to rebuild the lighthouse with bricks, but they failed to raise it to its former height, and the famous mirror, when they tried to replace it, fell and was broken into a thousand pieces.

After this, the Pharos appears to have been converted into a Mahomedan mosque. But towards the end of the tenth century, when Cairo was built, the Arabs left it—and Alexandria as well—almost entirely deserted. Despite centuries of neglect, the lower part of the great tower was still standing in the fourteenth century. In 1375 an earthquake hurled it, a mass of formless stone, into the sea.

During recent years numerous attempts—notably that of a German expedition in 1898-99—have been made to identify the ruins. None has resulted in a convincing success. In calm, clear weather, however, what are alleged to be the foundations of the Pharos still are visible beneath the sea near the present Fort Kait Bey.



LIGHTHOUSE ROCK WITH ADJACENT WORKS OF THE ISLAND OF PHAROS, ALEXANDRIA

Alexandria's famous Pharos stood on a rock at the eastern end of the island of the same name, as indicated by this reconstruction drawing by Mr. A. Forestier from M. Gaston Jondet's "*Les Ports Submergés de l'Ancienne Ile de Pharos.*"



ANCIENT ARTS AND CRAFTS. III
MARVELS OF THE POTTER'S ART

By E. J. FORSDYKE, M.A., F.S.A.

MARVELS OF THE POTTER'S ART

1. IN MEDITERRANEAN LANDS

BY E. J. FORSDYKE, M.A., F.S.A.

Assistant-Keeper of Greek and Roman Antiquities in the British Museum

THE charm of ancient pottery, not least of the wonders of the past, has a more universal appeal even than the impressive relics of the ancient builders or the surviving gems of the classic sculptors. It is more intimately human in its interest, and certainly the domestic conditions of man's life in the dim ages of the past is not more effectively revealed to us in any other work of his hand than in the examples of the early potter's art, or even in the potsherds that litter the ancient sites. Here we print a brief account of Mediterranean pottery, accompanied by several examples in colour and in black and white; while in a later chapter Mr. Athol Joyce, of the Department of Ceramics at the British Museum, deals with the ancient wheel-less pottery of Central and South America.
—EDITOR.

VESSELS of clay were not the first receptacles that man adopted for domestic use. There are many substances easier to work than clay, such as stone, wood, and leather, which need no fire, and plenty of ready-made utensils in shells and skins of animals and fruits. So it happened that the earliest clay pots were often modelled in imitation of natural forms, and decorated with designs which belong to other materials. Some of the oldest pottery of Greece, dating from the Stone Age (before 3,000 B.C.), is shaped like shallow baskets and painted red and white to reproduce the patterns of dyed straw-plait. Other bowls have the cylindrical form of short logs, and are decorated with primitive engraving which could easily be cut in wood. Leather bottles have left their mark in narrow-mouthed clay jugs which show the pull of heavy liquid contents

on neck and handles, and in the ornament of moulded ridges derived from seams in the leather.

In the early Bronze Age Greek pottery begins to show the long spouts, arched handles, and sharp edges which come naturally in metal, but are not so easily made in clay; and from this beginning, through full two thousand years, the potter set himself to reproduce the elaborate and graceful forms which were originally designed in silver, gold, or bronze.

Such models spurred ceramic art to rapid progress. For many centuries, however, the craftsman had no mechanical aids; the wheel and lathe were not invented, and all pottery was built up by hand. In fact, the introduction of the quick wheel, towards the middle of the Bronze Age (about 2,000 B.C.), put an end to the most elaborate efforts, cups with fluted walls and crinkled rims, for rapid turning produced circular bodies of extreme fineness and regularity, with no surface excrescences.

The home of Greek art in this prehistoric period was the island of Crete, where an imperial power grew up under a King Minos, whose name is now used to distinguish this early civilisation of Europe. Typical Minoan pottery of mature wheel-made style could hardly be surpassed in æsthetic qualities, though the technical processes of mixing and firing clay have, of course, been bettered by modern science. So delicate are the "egg-shell" cups found by Sir Arthur Evans in the Palace of Minos at Cnossos—"light and spontaneous as a bubble" their discoverer calls them—that no hand at the excavation was skilled enough to piece together their broken fragments.

Their decoration is done in brilliant colours, shades of red and yellow with white, on a lustrous black ground. The colour scheme was evidently taken from a peculiar black stone, which exists in Crete, veined with red and white. Vases in this material are not uncommon. Some of the pottery is painted with similar veins, and other pieces are mottled in imitation of stone conglomerate. But the designs are mostly geometric figures fancifully enriched with floral motives, whorls of leaves and petals. The plant forms and the few animal figures that appear are not drawn true to Nature, but are severely stylised into symmetrical patterns—a twig has stiff triangular leaves, a cuttle-fish carries his long tentacles neatly rolled in spiral coils.



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450 B.C.: RED-FIGURE GOBLETS OF ATTIC WORK

Left: Ceremonial drinking-cup in the form of a Sphinx, with winged and other figures round the rim. Right: Another example of the workmanship of Brygos—a flagon in the form of a human head, with a reclining lyrist, plectrum in hand, on the rim. The red is the clay surface, and the background an applied wash of black.



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450 B.C.: LOVELY RED-FIGURE TECHNIQUE

This Attic vase is in the unusual shape of a knuckle-bone of which the bottom is presented to the spectator. The figures are engaged in the "bird-dance," and nothing could be more wonderfully graceful than the motions wherewith they are imitating the action of flying; this is perhaps the highest level of the Red-Figure style.



By permission of the Trustees of the British Museum.

3000 B.C.: PRIMITIVE POTTERY OF GREECE

The dates given for the earliest examples in this series of illustrations can only, of course, be approximate. From left to right, pots imitated from a gourd, a wine-skin, a wooden bowl (top), a plaited basket (bottom), and leather. They may all be assigned to the Stone or early Bronze Ages before Greece was Greek.



2500-2000 B.C.: INFLUENCE OF METAL WARE ON POTTERY IN CRETE

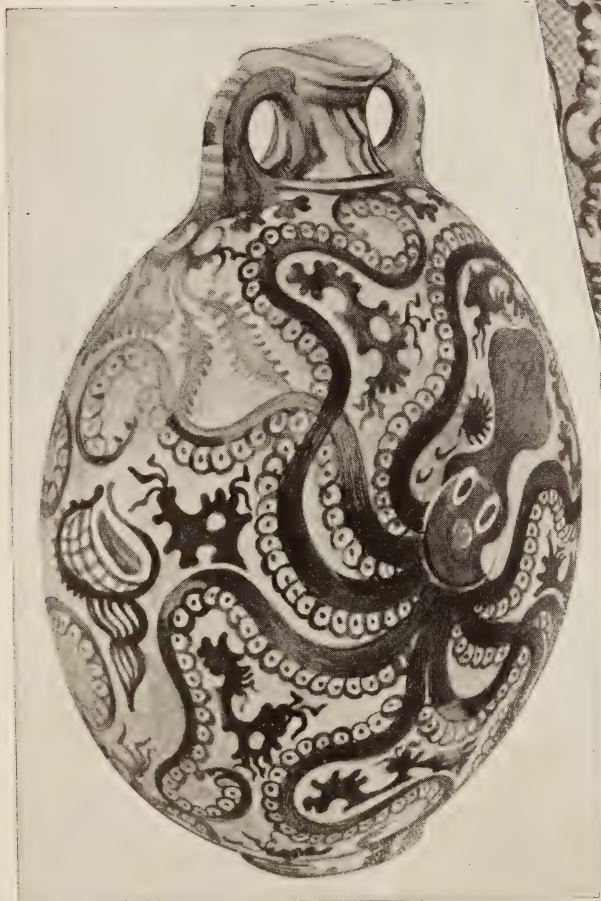
Top: Early Minoan long-spouted jug, found at Gournia, in Crete—a shape obviously influenced by metal-forms. Note the graceful curvilinear ornamentation. Bottom left: Middle Minoan cup, from Gournia, with slender handles, copied from a silver vessel; the edges are elaborately fluted and waved, and the side is ornamented with designs in white and red. Note the rivets at the top of the handles. Bottom right: Second cup of similar technique, with side and edge gracefully scalloped, and painted with leaf-like designs.



By permission of the British School of Archaeology at Athens.

1600 B.C.: FINEST LATE MINOAN WARE

The "naturalistic" marine designs of these vases found at Palaikastro in Crete bespeak a seafaring people. Left: libation-vessel with a hole at the bottom for the escape of the fluid; octopods and trumpet-shells among fronds of seaweed growing on rocks. Right: vase decorated with trumpet-shells, and argonauts (shell-fish) sailing between rocks and shoals.



By permission of the British School of Archaeology at Athens.

1600 B.C.: CRETAN MARINE DESIGNS

Like the other vessels illustrated in this page, this vase was also found in 1903 at Palaikastro, and is ornamented with rocks, seaweed, shells, and octopods. The three represent the best examples found, and are characteristic of the lovely ware produced at this period, when other arts were degenerating.



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900-700 B.C.: FIRST HISTORICAL GREEK POTTERY

This style, known as "geometric," is a lineal ancestor of the types which blossomed in the Golden Age of Athens. Left, from Athens, beginning of the period: a dead man is laid out on his bed, surrounded by mourning women. The goat under the bed is probably only to fill an empty space, abhorred of Greek artists. Right: gryphon-headed jug from Ægina, end of the period.



By permission of the Trustees of the British Museum.

650 B.C.: CORINTHIAN AND RHODIAN JUGS WITH ANIMAL DESIGNS

The patterns on these jugs, from Corinth and Rhodes, are imitated from Oriental tapestries. They include processions of beasts, both real and fabulous, in a strange medley; at the bottom of the left-hand example is a bird-tailed panther, at the top of the centre example a sphinx. Elsewhere are snakes, cocks, deer, lions, and a rabbit. As usual the potter will not tolerate blank spaces, and in this case they are filled with rosettes and decorative figures of leaf-like and other designs.



By permission of the Trustees of the British Museum.

450 B.C.: EXAMPLE OF ATTIC RED-FIGURE WARE

This calix, or cylix (drinking-cup), is mounted so as to show the interior, whereon is depicted a young man at dinner, holding the flutes of a dancing girl, and beating time while she dances. His name, Piliros (Philippos), is written above, and hers, Kallisto, below. The name of the potter was Brygos, an artist of repute.



By permission of the Trustees of the British Museum.

550 B.C.: TWO ATTIC VASES WITH BLACK DESIGNS ON WHITE

Left: The end of the third labour of Herakles. After capturing the Erymanthian Boar, the hero (garbed in lion-skin) tips his prisoner upon Eurystheus, who, affrighted, has taken refuge in a wine-jar. With the figures are combined conventional floral ornaments. Right: A water-jar with panel-decoration (i.e., not in a continuous band). Women are fetching water from a public fountain, seen to the left; note the different ways of balancing a water-jar when empty and when full.



By permission of the Trustees of the British Museum.

450-300 B.C.: GREEK WARES OF DIFFERENT STYLES AND DIFFERENT PERIODS

Top left: Further example of Attic Red-Figure ware of the fifth century. The Muse Terpsichore sits with rapt expression and surrounded by companions bearing harp, lyre, and flutes. Top right: Attic fifth century oil-bottle, representing a mourner at a grave—it was therefore to be used as a funeral offering. The painting is in bright colours on a white ground. Bottom: Copies of originals in metal—as in the beginning, so in the final stage. The ware (fourth century) is black, with gold and white wreaths.

True copying of natural objects was a later achievement. It came to Greece at the end of the Bronze Age, the period known as Mycenaean, when the Minoan art of Crete had spread to the mainland, and "golden Mycenæ" became the capital of a new empire. These were the days in which Homer's heroes lived, while Troy still stood.

Late Minoan or Mycenaean pottery is adorned with plants and flowers and with sea creatures, even fish, but never with other animals or human forms. It seems as if the Cretan artists rejected such motives as unfitted for the decorative scheme of pottery, for men and animals are common enough in their metal-work and fresco-painting. The designs are usually set in broad bands around the vases, friezes of waving reeds and wind-blown flowers bordered with narrower zones of close-coiled spirals, these last adapted from inlaid wire ornament in metal-work, from which, as has been said, most of the shapes are also derived.

The colours now are simpler: a black lacquer, firing to tones of red and brown, on a lustrous yellow ground, the surface of the clay itself. The decorative effect is obtained in the designs alone. A rich source of inspiration was the sea. Seaweeds, rocks, shells, and curious creatures are strewn over the smooth surface of the vase just as you can see them lying in the clear tideless water of a Cretan beach.

About a thousand years B.C. this ancient native civilisation of the Ægean lands was struck and scattered by invading foreigners, a more vigorous but less cultured people, who brought with them the use of iron, the Greek language, and a tradition of fair-haired beauty. They were probably a northern race, akin to our own Saxon ancestors. By this time Mycenaean art had outworn itself. Designs on pottery were formal figures whose derivation from the bold naturalistic motives of the best days of Crete and Mycenæ is scarcely to be recognised. Now they go out, and a new sort of decoration comes in, on pottery of new shapes, but in the old technique.

The shapes are again metallic, but clumsy in construction. The ornament is copied from woven or embroidered fabrics—a close-packed mass of minute angular patterns which have given to this style of Greek pottery the name "Geometric." Even men and women, when at last they are represented, are geometri-

cally drawn. Their bodies, presenting a narrow waist between broad hips and shoulders, appear as two triangles in hour-glass shape. But this crude work was ultimately refined into the classical pottery of Greece.

In classical Greek art, unlike Minoan, the human figure came to be of paramount importance. On archaic pottery, of the eighth and seventh centuries B. C., which was produced in different styles from numerous localities, at Corinth, Athens, Rhodes, and the great Ionian cities of the Asiatic coast, there are painted rows of animals, real or legendary, marching in solemn procession. The models for these were found in Oriental tapestries, and the gay colouring of the pottery was copied from the same fabrics. Men and women were soon admitted to the company, then the lesser animals retired to narrower friezes or hid themselves in corners, under spouts and handles, and humanity had the stage to itself.

Later developments, after 600 B.C., show the progress of the Greek painter rather than the potter, and the industry of Athens more than that of any other town. The shapes are exquisitely turned, but the types, once formed or copied from metal originals, did not experience much change. Both potter and painter used to sign their works, and many Attic vases bear a double inscription—such as “Cachrylion made me, Euphronios painted me.”

The earlier Attic pottery, belonging to the sixth century, B.C., is decorated with figures painted in brilliant black on the fine red clay, which was the special property of Athens. Details were added to the black silhouettes by engraved lines, often of incredible fineness, and by washes of white and purple paint to distinguish clothes and features. Purely decorative patterns, floral scrolls of lotus and palmettes, were drawn in the same medium. There is a moment at which these “Black-Figure” vases show a perfect balance of form and decoration. After that the pictures encroach upon the other ornament, and the vase is made to provide panels, not very happily shaped, in which the painters of figure-subjects show their skill.

The growth of power in drawing soon forced a revolution in technique. Instead of black silhouettes the figures are now drawn in outline, and the whole of the background is filled in



Reproduced from Sir Arthur Evans's "The Palace of Minos at Knossos" by arrangement with the publishers, Messrs. Macmillan & Co., Ltd.

POLYCHROME VASES FROM CRETE, OF THE "MIDDLE MINOAN III." PERIOD

1 and 3. Two views of oval-mouthed pitcher, white and yellow plant on buff background. 2 and 6. Vase with white and orange "naturalistic" designs on green. 5. Pitcher with painting to represent conglomerate. 4. Handled cup from Palaikastro.



By courtesy of the British School at Athens; copyright drawings by Piet de Jong, architect to the School.

POTTERY MODELLED ON METAL ORIGINALS AND JEWELS FROM MYCENÆ

1. Clay vase, imitating metal copy of an ostrich egg original with gold base.
2. Beaker of Mycenaean "Transitional Period" (c. 1450 B.C.).
- 3 and 4. Polychrome imitations of inlaid metal-ware—note the scroll pattern in 4, derived from coiled wire.

with black. Details could thus be added freely in ordinary black lines, drawn, it is supposed, with a single bristle, so delicate and true are they. This is the Attic "Red-Figure" style, which was invented about 500 B.C., and lasted for more than a century.

There was some variety in technique, notably a class of oil-bottles, specially made for funeral offerings, and painted with suitable subjects in colours on a white ground. Variety of shape was sought in imitation of natural objects, human heads, sometimes grotesque and comic, and models of animals. A famous vase, bearing scenes of girls practising a bird-dance, is modelled like a gigantic knuckle-bone.

The end of such painted pottery came when the art of drawing grew beyond the limits of a vase, as it was bound to do. Then the potter frankly turned to his bronze model, and reproduced its decoration as well, of embossed or inlaid patterns. Some of the most graceful shapes are found among the latest Attic vases, which are entirely black, moulded with simple ribs or flutes, and festooned with white-painted or gilt garlands. But at their best such exact copies are only substitutes for their silver, bronze, and gold originals.

The intense human interest of the Greeks, however little adapted to the decoration of pots and pans, had the fortunate result that it raised the potter's craft in the classical period to the level of a fine art, and preserved for us the only record that we possess of the painter's skill; for the works of the great Greek masters, Polygnotos and the rest, have perished, but these little pictures on the vases, which, it is thought, often reproduce scenes from their greater panels, will last as long as the pottery survives, and pottery, we may be thankful, is almost indestructible.

TEMPLES OF THE GODS. XII
THE EARLY SHRINES OF BUDDHISM

BY F. DEAVILLE WALKER

THE EARLY SHRINES OF BUDDHISM

BY F. DEAVILLE WALKER

Author of "India and Her Peoples"

Illustrated by 16 photographs specially taken by the Author

TWO points here call for note. In the first place, Gautama Buddha is not a "god," and, in the second, stupas are not exactly temples; but the educated modern Buddhist as well as the general reader will readily understand that, in such a work as this, for the convenience of editorial arrangement, the sectional headings, such as "Temples of the Gods," must be somewhat arbitrary.
—EDITOR.

NORTH India is to the Buddhist what Palestine is to the Christian, and Arabia to the Moslem. Every year pilgrims from all Buddhist lands journey to India to visit the sacred shrines that mark the scenes of Buddha's life and work. Siddhartha Gautama, the founder of Buddhism, was born in the sixth century B.C., in the garden of Lumbini, within sight of the majestic snowy peaks of the Himalayas. In the forests of Gaya, in the modern province of Bihar, he attained Buddhahood. At Sarnath, near Benares, he delivered his first great discourse. For forty-five years he travelled through the plains of North India and the valleys of Nepal, preaching his gospel, and at Kusinara (the modern Kasia, in the Gorakhpur District) he died about the year 478 B.C. at the age of eighty. After the custom of his people, his body was burned. The ashes of that funeral pyre were divided into eight portions and distributed among the neighbouring clans and kingdoms, and "stupas" (large dome-shaped relic shrines) were built over these remains of the great teacher.

Little more than two centuries after the death of Buddha

there came to the throne of the ancient Indian kingdom of Magadha one of the best and ablest monarchs who ever controlled the destinies of India—Asoka the Great. His empire extended from the Himalayas and Afghanistan in the north, to the Pennar river in the south. In the ninth year of his reign he became a devoted follower of the Buddha, and earnestly strove to rule his kingdom according to the precepts of his master. It is no exaggeration to speak of him as the Constantine of Buddhism. From his palace at Pataliputra (the modern Patna, on the Ganges) Asoka issued one of the most extraordinary series of edicts ever composed by a monarch. They deal with the organisation of the empire, with morals, and with religion. It was Asoka's custom to have these edicts graven upon polished surfaces of rocks so that they might be visible to all. In the plains, where no rocks were available, he caused high pillars to be erected, upon the polished shafts of which the edicts were incised. These edicts were strewn over the whole of his empire. Ten of the pillars are known to us, although most of them are more or less broken. Each was cut from one block of stone averaging 40 feet to 50 feet high, a graceful, highly-polished column of first-class workmanship, with a beautiful capital surmounted with one or more lions.

To Asoka and his masons we are indebted for much of our knowledge concerning the life of Buddha. Our only clue to the exact place and date of his birth, for example, is due to the fact that Asoka caused a pillar to be erected on the spot; this was discovered in 1896, and bears an almost perfect inscription recording Asoka's visit.

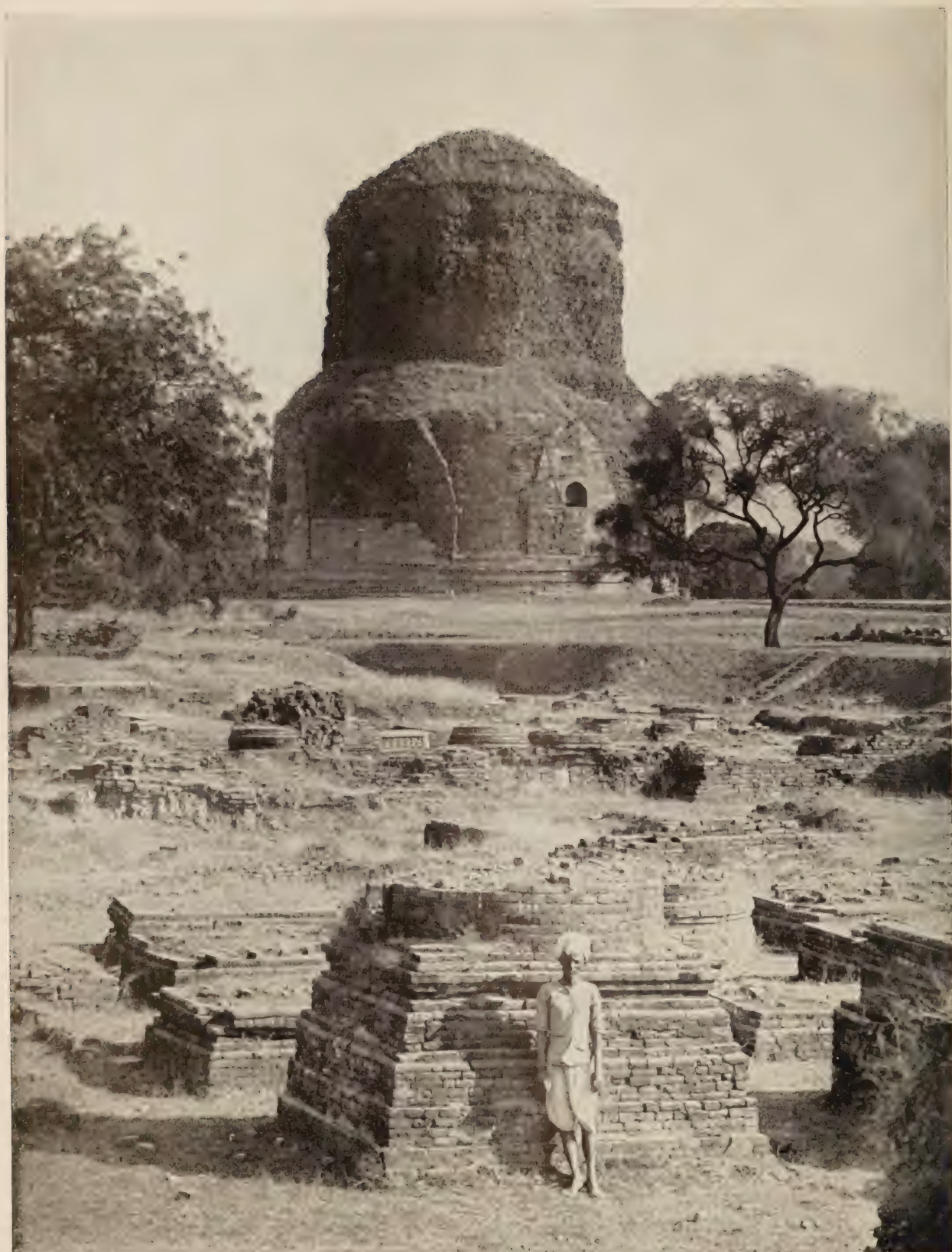
It was evidently the devout purpose of the great emperor to mark with a permanent memorial the site of each of the four most sacred events in Buddha's life—his Birth, his Enlightenment, his First Sermon, and his Death. With the passage of centuries Asoka's empire waned and broke up. Buddhism was driven from the land of its birth; but Asoka's memorials remain, and are still visited by Buddhist pilgrims from afar. Glorious even in decay, they stand as proud, if to the Western visitor pathetic and solitary, survivals of the great past. Let us in thought, and by the aid of the camera, visit a few of them.

More than five hundred years before Christ, Gautama made his "great renunciation." Leaving everything he possessed, home



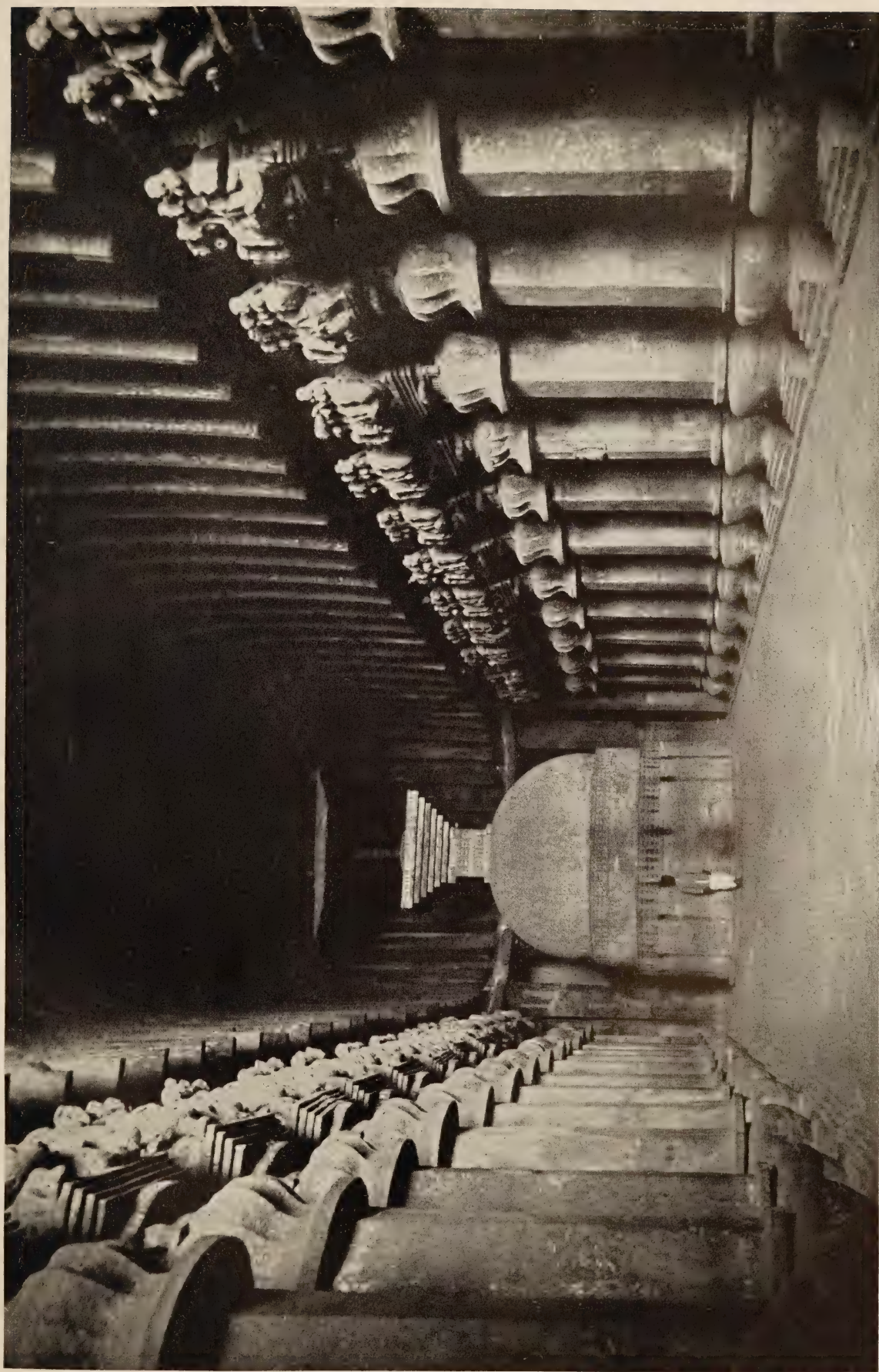
TREE REVERED BY BUDDHISTS FROM THE HIMALAYAS TO CEYLON

Beside the west wall of Buddh-Gaya Temple is a large bo-tree, probably a direct descendant of the one under which Buddha sat in meditation at the moment of his "Enlightenment." It is the tree that occupies the right half of this photograph. In the shade beneath is a brick platform, built around the trunk, and on it may often be seen a pilgrim sitting cross-legged in the act of worship. To the Buddhist this spot is what Bethlehem is to the Christian—the birthplace of his faith.



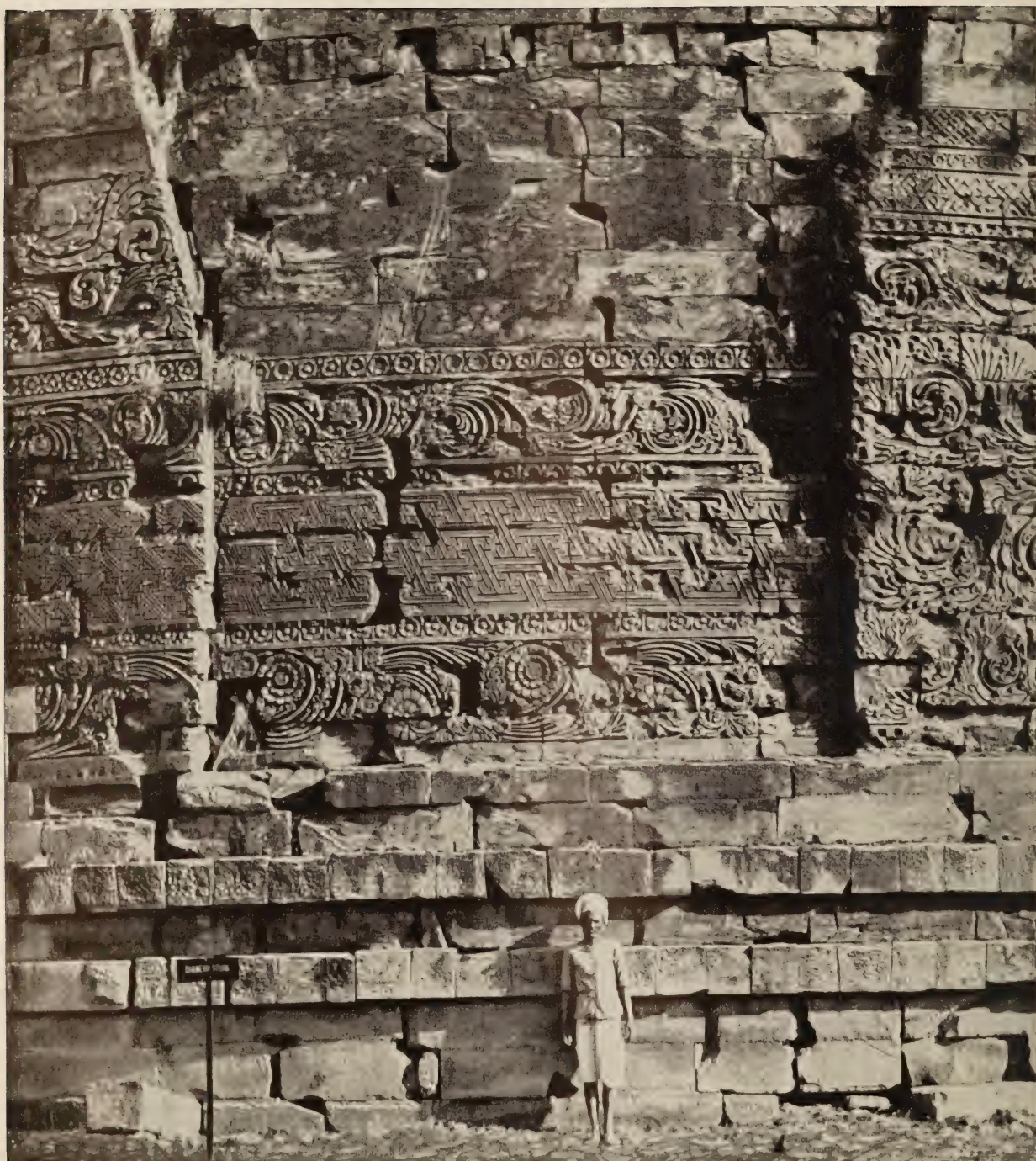
RUINS OF SARNATH, WHERE THE BUDDHA PREACHED HIS FIRST SERMON

Second only to Buddh-Gaya in sanctity is Sarnath, where Buddha delivered his first great discourse. Sitting quietly under the trees, he explained his doctrines to five ascetics who had been his companions. Asoka built a stupa to mark the spot, but it was afterwards over-built by the tower-like structure shown in this picture. It is of solid brickwork, originally faced with stone, some of which remains and shows enough of the original carving to prove that, in the day of its glory, it was very beautiful.



INTERIOR OF THE PILLARED CAVE-TEMPLE OF KARLI, THE FINEST BUDDHIST SHRINE IN INDIA

The interior of the Karli cave is extremely impressive, being about the size of the choir of Norwich Cathedral. The splendid rock-hewn pillars—fifteen on each side, with four more at the entrance, and seven at the far end—separate the nave from a broad aisle that runs round. The roof is of wood and of the same age as the temple. The lighting is so arranged that all the direct rays fall on the stupa at the end. Two thousand years ago the pillars and stupa glowed with colours and gold, and banners hung in the great vaulted roof. Notice that there is no image of the Buddha here. This is the pure simplicity of early Buddhism.



STONE CARVING ON THE GREAT STUPA AT SARNATH

This noble memorial has been terribly mutilated by successive invaders and left in a ruined condition. Around the base, however, are still traces of the beautiful design carved there in the remote past. In the early centuries A.D. hundreds of yellow-robed monks and nuns dwelt in the monasteries of Sarnath. A Chinese pilgrim, who visited the place in the seventh century, records that he found 1,500 of them. But one invader after another swept over North India till, in A.D. 1193, Sarnath was finally devastated.

and wealth, wife and infant son, he went into the jungles, and for several years sought, first by meditation, and later by self-torture, to solve the problem of human existence and human suffering. But neither the quiet concentration of thought nor the severe mortification of his earthly nature produced the calm he longed for. After seven years of fruitless search, the lonely recluse was sitting beneath a bo-tree at Gaya, wrapt in thought, when after a severe mental struggle his mind became restful and "cool," and he discovered what he believed to be the cause and cure of suffering. In that hour he became "the Buddha"—the Enlightened One. The bo-tree (wild fig) became famous, and long before the time of Asoka it was an object of devotion.

Asoka's reverence for the tree at Gaya was such that he built a memorial shrine beside it. This was afterwards succeeded by a larger temple, the Buddh-Gaya, on the same spot, the date of which is very uncertain; some authorities suggest the sixth century A.D., but others are inclined to throw it back to the first century B.C. Certainly it was seen and examined by a famous Chinese traveller, Hiuen Tsiang, who visited India as a Buddhist pilgrim in A.D. 640, and the dimensions he gives correspond with those of the present structure. Forty years ago the whole building was in a very decayed condition and was rather drastically "restored," the main features, however, being carefully preserved.

Very impressive is this great brick temple, rising in nine diminishing storeys like a tall pyramid to a height of 160 feet. Its lowest storey forms an imposing terrace around the base, and has a smaller pagoda at each corner. No other temple in any part of India is at all like it. Its exterior is decorated, but not carved, yet its outline is graceful and harmonious. Within is a dark, cave-like chamber in which lamps burn continually before a more than life-sized image of Buddha. The figure is tawdrily draped and decked with glittering ornaments, and large prayer flags are festooned around. But this is not the work of Buddhists. Hundreds of years ago the Hindus claimed Buddha as the ninth incarnation of their god Vishnu, and some years ago the Vishnava priests of a neighbouring Hindu monastery turned this ancient Buddhist memorial into a Vishnu temple. They have even gone so far as to paint the sacred V-shaped mark of

Vishnu on Buddha's forehead. Thus this great temple that marks the most sacred spot in the Buddhist world has become the shrine of a faith against which his teaching was a revolt. Around it, at a distance of a few yards, are the broken remains of a very beautiful stone railing built around the original shrine about a century after Asoka's time. It is the finest bit of workmanship about the place, and is one of the most ancient sculptured monuments in India. The grounds are crowded with finely-carved stone shrines and other ancient remains—a paradise for archæologist and artist.

Just behind the great temple, surrounded by a brick platform, is a large bo-tree, said to mark the spot where the great teacher received enlightenment. There is reason to suppose that the present tree is a lineal descendent of the original one under whose shade Buddha sat on that memorable night twenty-four centuries ago. As we lingered near that spot, deep in thought, a Buddhist pilgrim from afar came and knelt beside the tree. Then a dozen Tibetans, who, like Kim's old Lama, had tramped over the passes of the Himalayas to visit the sacred places of their faith, glided noiselessly past in single file, round and round and round the shrine. Their heads were bowed, and in their hands they turned their little brass prayer wheels with their strange, pathetic invocation: "Om! Mani Padmi Om!" (O! the Flower of the Lotus, O!) We watched as they proceeded round and round the temple, within the old processional path marked out by the ancient rail—the path trodden for over two millenniums by countless myriads of bare feet. And we thought of the meek, self-forgetful man who once sat beneath the tree, thin and worn with years of privation, and exhausted by mental conflict, and how, just before that memorable dawn, a great calm came upon him. We recalled the words by which he recorded the experience:

My mind was released from the defilement of sensual desire.
My mind was released from the defilement of earthly existence.
My mind was released from the defilement of heresy.
My mind was released from the defilement of ignorance.
In the emancipated arose the knowledge "I am emancipated."
Thus did I perceive in the last watch of the night.



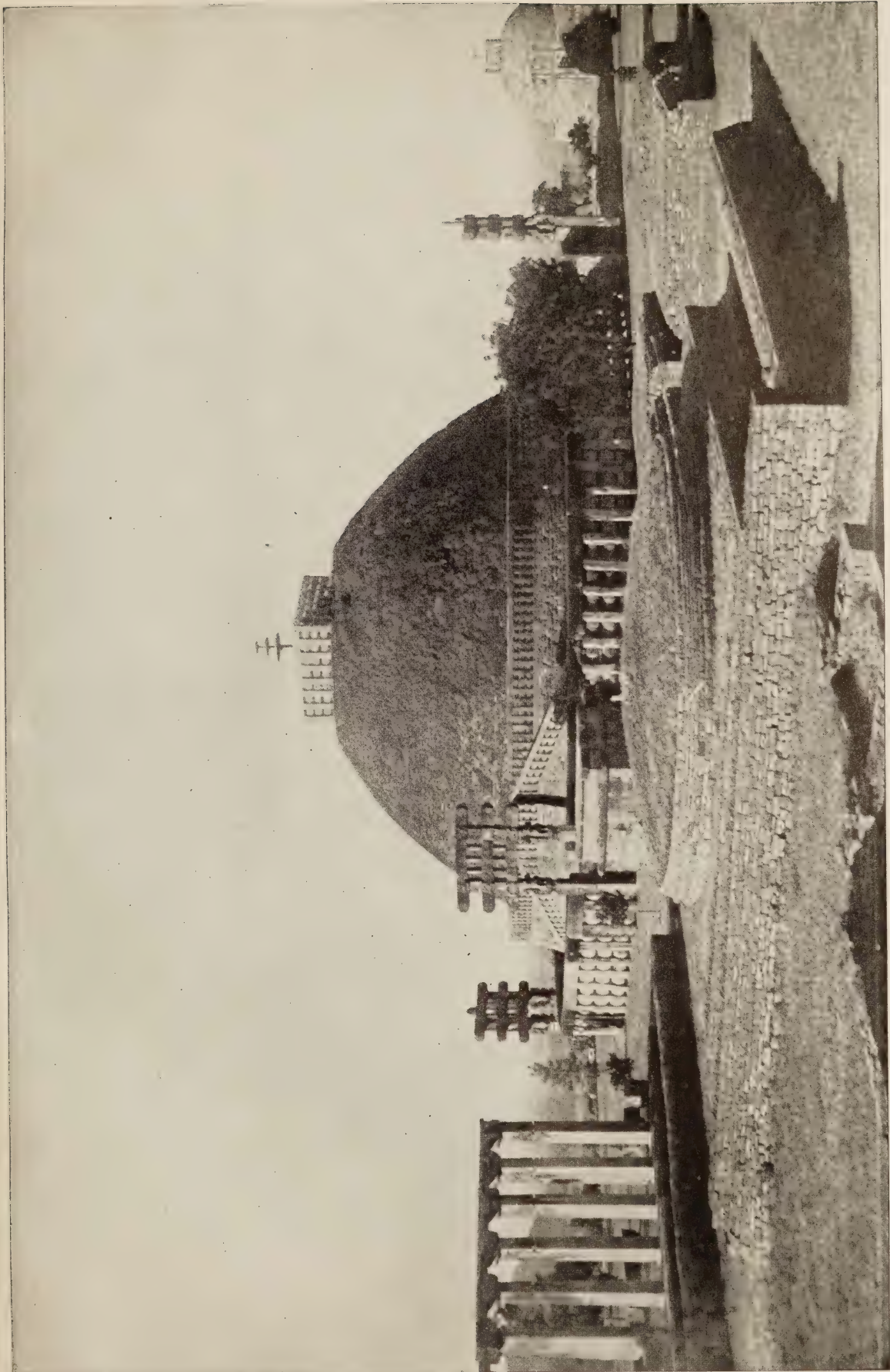
THE VESTIBULE OF THE KARLI CAVE-TEMPLE

This rock-hewn screen with three doorways (two of them are shown in the photograph) was part of the original work, but the carvings are of much later date. Notice the finely carved elephants and the representation of the three-barred railing.



WHEN IDOLS SUPPLANTED THE PLAIN STUPAS OF EARLY BUDDHISM

This is a Buddhist cave-temple at Ellora of much later date than the Karli cave illustrated elsewhere. It is much smaller and not nearly so impressive. Instead of the plain symbolic stupa of early Buddhism, we find a large figure of Buddha surrounded with attendants. Though shaped like the wooden one at Karli, the roof is cut out of the rock. This temple is rededicated to Visvakarma.



ANCIENT DOME-LIKE BUDDHIST SHRINE AT SANCHI AS IT STANDS RESTORED

On the summit of a hill in the State of Bhopal there stands, silhouetted against the sky, a huge dome, with a couple of smaller ones and numerous ruins around it. It is one of the oldest and finest of the ancient monuments of India. Thanks to the patient and scholarly labours of Sir John Marshall, the whole of these splendid ruins has been recently explored, and, as far as possible, restored. To-day they stand grand and imposing upon the lonely hill-top. In the foreground of the picture the base of another dome is seen. There is a great deal of uncertainty as to what these great stupas were erected to commemorate, but the spot must have been one of considerable sanctity.



STONE CARVINGS ON A GATEWAY OF THE SANCHI SHRINE, NEARLY 2,000 YEARS OLD

This photograph shows the upper portion of the north gateway. The posts and crossbars are mortised together and seem as strong as ever. Much of the carving is nearly as fresh as when it was executed. In these early carvings Buddha himself is never represented save by symbols; a lotus flower symbolises his Birth; a bo-tree, his Enlightenment; a wheel, his First Discourse; and a stupa, his Death (one is visible on the right pillar, between the middle and lower bar, and another below the elephants at the bottom right-hand corner of the photograph).

Ignorance was beaten down, insight arose;
Darkness was destroyed, the Light came,
Inasmuch as I was there, strenuous, aglow, Master of Myself.

Tradition tells us that the Ruler of the Highest Heaven humbly knelt before the Buddha and begged him to preach to others the doctrines he had discovered. So, leaving Gaya, the new teacher journeyed to Benares.

In a forest known as the Deer Park, now called Sarnath, four miles north of the sacred city, Buddha found five ascetics, who for six years had been his companions in austerities and meditation. Gathering them around him, he told them of his enlightenment and of his discovery. It was his first great discourse—the Buddhist equivalent of Christ's Sermon on the Mount. In Buddhist phraseology, the great teacher "began to turn the wheel of the law." The substance of this discourse has been preserved in the Buddhist sacred writings, and what we may call the "four points" of his discussion have been also found engraved on a stone umbrella discovered at Sarnath.

The memorable scene has been described in glowing words by Buddhist poets, and as one wanders among the ruins that now cover the site, the mind conjures up a picture of the grave teacher sitting cross-legged, with hand uplifted, discoursing to those five eager listeners on "The Foundation of the Kingdom of Righteousness," and explaining to them his "Four Noble Truths," viz.: The Noble Truth of Suffering; The Noble Truth of the Cause of Suffering; the Noble Truth of the Escape from Suffering; the Noble Truth of the Way that leads to the Escape from Suffering. A passing stranger would scarcely have cast a second glance at those men quietly conversing under the trees, little dreaming that one of them was propounding doctrines that would become the faith of hundreds of millions of people.

The Emperor Asoka marked the spot with a memorial stupa of solid brickwork. Devotees crowded to the place, and monasteries for monks and nuns were built around. Among these buildings, Asoka erected one of the edict pillars with an imperial edict warning the monks and nuns against the sin of schism. "The Church," begins this inscription, "is not to be divided, and whosoever, monk or nun, shall break up the Church, shall be made

to don white garments (i.e., shall be unfrocked), and dwell in the place which is not a residence for those in the Orders."

As the centuries passed, a larger stupa was built over the one Asoka had made; several large monasteries arose, and pious hands built around multitudes of small devotional stupas, ranging from less than a foot up to ten or fifteen feet in height. The Chinese pilgrims, Fa-Hiuen and Hiuen Tsiang, visited Sarnath in the fifth and seventh centuries respectively, and have left us accounts of what they saw. Hiuen Tsiang tells of more than 1,500 yellow-robed monks residing in the monasteries. But troubles soon overtook the sacred place. The terrible White Huns swept down on Sarnath, destruction marking their path. Time after time the monasteries and shrines were rebuilt, destroyed, and again rebuilt. In 1017 the Mahmud of Ghazni, the famous Mahomedan conqueror, known as the "Idol Breaker," swept like a whirlwind across North India, captured Benares, and sacked Sarnath, smashing the images of "the Blessed One" as resolutely as he broke the idols of the Hindus.

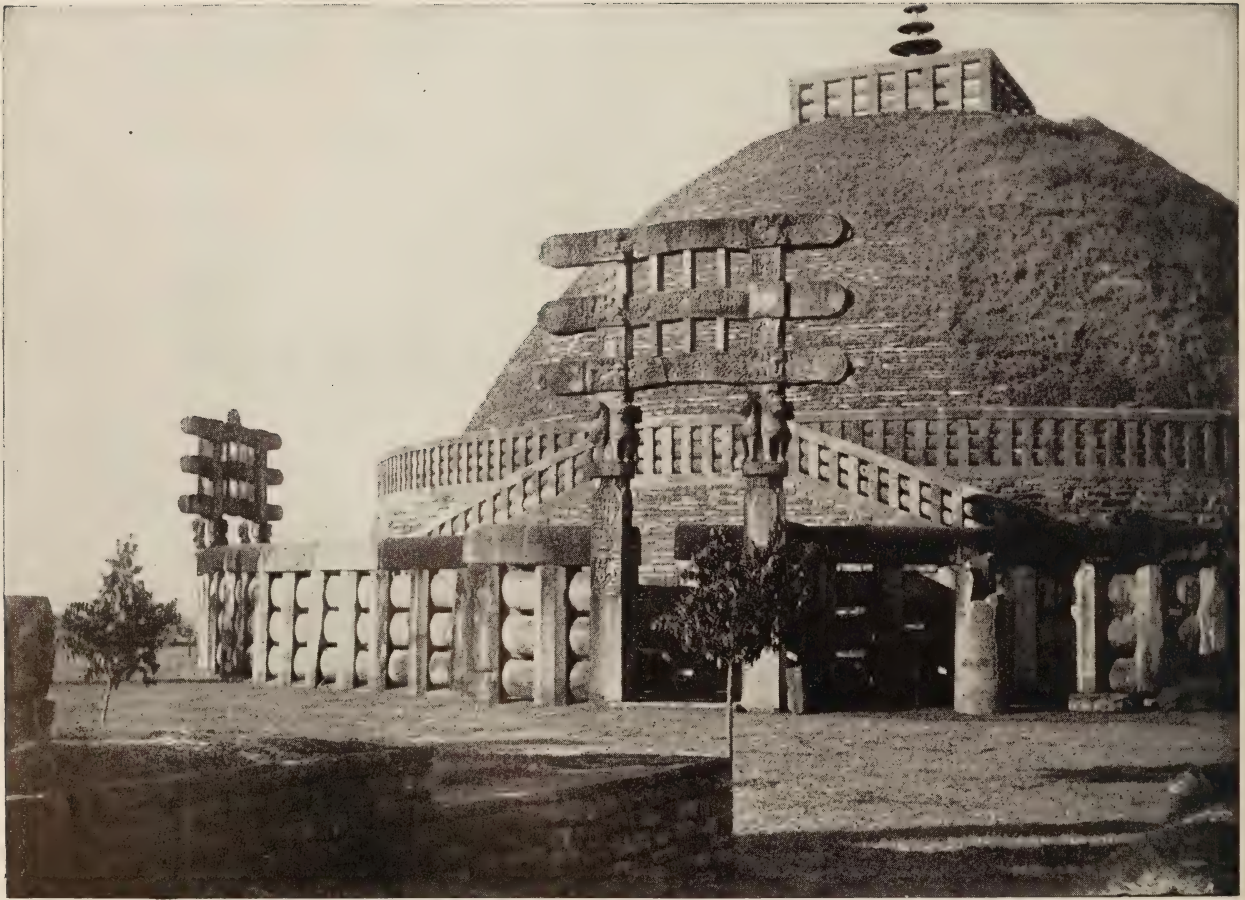
Then, in A.D. 1193, came the final catastrophe—Shihabu din Ghauri utterly destroyed the temples and religious houses. The place was left desolate, and it remained so for seven centuries, save when some prince used it as a convenient quarry from which to get stones for a new building. Then modern explorers began to pay attention to the ruins, and, thanks chiefly to Sir John Marshall, the Director-General of Archæology, the remains of five monasteries, several temples, and numerous shrines and stupas have been unearthed.

Rising high above the ruins is all that has survived of the great stupa that marks the place of Buddha's first sermon—a mighty tower-like structure of solid brickwork, faced with stone. Its present height is over 100 feet, with an additional 40 feet below ground. The lower part is 93 feet in diameter, and the stones are fastened together with iron clamps. By careful digging into this solid mass, the remains of Asoka's stupa were found buried within. When it stood complete, it must have been a magnificent monument, covered with finely carved stonework, of which enough remains to show the original design. To-day it stands battered and desolate, a forlorn symbol of the creed it represents.



THE LOWER PROCESSIONAL PATH AT SANCHI

It will be observed that the massive stone rail bears a strong resemblance to a log-fence; and it is intended to represent one. The earliest Buddhist architecture was of wood, and when the Buddhists began to build with stone, or cut out temples in rock, they imitated their wooden models. The four gateways, too, resemble wood rather than stone.



BALUSTRADE AND CARVEN GATEWAYS OF THE GREAT MEMORIAL STUPA AT SANCHI

Completed in the second century B.C., the stupa encloses one built by Asoka a century earlier. The massive stone railing and the four unique gateways were built before the dawn of the Christian era. To the right of the south gate (shown in the centre) is the stump of one of the pillars on which Asoka was wont to inscribe his imperial edicts. It was once surmounted by a lion-capital. Notice the railed processional path running round the dome.



ENTRANCE TO BUDDH-GAYA, MOST HOLY TEMPLE IN THE WHOLE REALM OF BUDDHISM

The decorations of this temple cannot compare with some of the splendid stone carving on other Indian shrines. Nevertheless, it has a charm all its own. Buddhist pilgrims come from Ceylon and Tibet, Burma and Siam, and even from far distant China and Japan, to perform their devotions at this sacred place. An important part of their worship is to walk many times round the building. The large "stupa" in the foreground was probably the gift of some important pilgrim hoping to secure merit.



THREE ROCK-HEWN PILLARS OF THE KARLI TEMPLE

The Karli temple has thirty similar pillars, and eleven of another design. They are entirely rock-hewn. The capitals consist of two kneeling elephants, with two female figures on the back of each. The great wooden rafters of which the unique roof is formed are visible above; they are eighteen hundred years old.

All around the great stupa lie the ruins of the days when Sarnath was in its prime. On every hand are the more or less broken shrines and stupas. But the most interesting relic of all is the Asoka pillar. The stump of it, some 17 feet high, remains in position, while the broken fragments that lie around make it possible to estimate its original height at 50 feet. It was cut from a single block of stone, quarried more than twenty miles away and brought to this spot. It is so highly polished that it may easily be mistaken for marble, and the magnificent lion-capital, seven feet high, is the finest piece of ancient Indian sculpture that has come down to us from that remote age. It consists of four lions, standing back to back. Originally there stood above them a large wheel—a symbol of the “Wheel of the Law” that Buddha first turned at Sarnath.

On the summit of a hill near to the village of Sanchi, in the State of Bhopal, there stands, silhouetted against the sky, what from the valley below appears to be a huge dome, with a couple of smaller ones near to it. It is one of the oldest and finest of the ancient monuments of India. There is nothing to connect Sanchi with Buddha himself, and we have no certain knowledge as to the reasons that led Asoka to build a memorial stupa and erect one of the finest edict pillars on this hill-top; but it is evident that for some cause or other the great emperor had special interest in the place.

Here on the hill-top, and visible for many miles around, Asoka raised his pillar and built his memorial stupa—a hemispherical dome of solid brickwork, half as large as the present structure. About a century later the stupa was covered with a thick encasement of stone, and brought to its present size. A massive stone railing was constructed round the base of it, and, a little while before the dawn of the Christian era, four splendid stone gateways were added, facing the four points of the compass. In its full glory the dome was covered with fresco paintings, and the richly carved gateways were also painted.

As the centuries passed and the sanctity of the place increased, other stupas and shrines and large monastic buildings arose around, just as at Sarnath. Then came invasion, destruction, and desolation. By the nineteenth century two of the great gateways had fallen and some of their parts were badly broken.

In 1882 Major Cole carefully raised them to their former positions, and joined the broken fragments together with such care that only an expert would know they had ever fallen. Later, thanks to the remarkable skill and unfailing patience of Sir John Marshall, the most important features were restored almost to their original condition. For about seven years (1912-19) he laboured at his great task, first cutting away the jungle and removing the vast accumulation of débris, then patiently examining every stone and restoring each one to its original position. Piece by piece Sir John found almost every bar and upright of the stone rail and of the smaller one on the top of the dome. Even the broken fragments of the stone umbrella (symbol of royalty) that surmounted the whole, were found and pieced together. Surprisingly little new stone has been introduced; yet the great stupa, with its walls and gateways, is practically as complete as it was two thousand years ago.

A few feet from the south gateway are the broken remains of Asoka's pillar. It was originally 42 feet high, and of finest workmanship. Many years ago it was broken by a local zemindar, that from its shaft he might make a press for crushing sugarcane. The stump still remains, and large fragments of the shaft lie on the ground near by. The sadly-broken lion-capital is carefully preserved in the small museum built by Sir John Marshall. So remarkable is the workmanship of this capital (and that of the better preserved one at Sarnath, already described) that Sir John and some other authorities believe it to be the work of a Perso-Greek sculptor in the employ of Asoka.

But the glory of Sanchi is in its four great gateways, which date from the latter part of the first century B.C. Their graceful form, the richly-carved bas-reliefs with which they are covered, and their great age, make them impressive beyond words. Two of them have stood unmoved throughout the ages, and the carving on all is marvellously preserved; indeed, much of it seems to be almost as fresh as when it left the hands of the sculptor two thousand years ago. The bas-reliefs, with singular richness of decorative device and symbolism, represent incidents in the life of Buddha and legends concerning his previous existences. The figure of the great master himself never appears. At that early period, while Buddhism retained much of its original purity, it



INDIAN SCULPTURE AT ITS BEST

Among the ruins of Sarnath were found fragments of a monolith pillar erected by Asoka in the third century B.C. It originally stood about 50 feet high and was surmounted by this magnificently carved capital, so highly polished that it could easily be mistaken for marble.



TERRACE OF THE GREAT TEMPLE OF BUDDH-GAYA

This terrace runs round the temple, and has at each corner a pagoda, exactly like the one seen in the picture. The bell-like ornaments to the right are devotional "stupas," or shrines erected by pious pilgrims to commemorate their visit. They are carved in stone and there are hundreds in the beautiful grounds all round.

was unlawful to make images, carvings, or paintings of its founder. "The Blessed One" is represented by symbols: his Birth by a lotus flower, his Enlightenment by a bo-tree, his First Sermon by a wheel of the law, and his Death by a burial stupa—all of which occur repeatedly in the carvings of the four gateways. Doubtless these reliefs, and the painted frescoes that once adorned the dome, served a purpose other than that of mere decoration; they were probably used for instruction of the faithful—a system of illustrative teaching, used pretty much in the way that modern Christian missionaries use the magic lantern as a means of teaching their people the story of the life of Christ.

No account of early Buddhist shrines could be complete without some reference to the cave-temples and rock-hewn monasteries which were as characteristic as the stupas, the pillars, or the stone railings. The oldest we know of are in the Barabar hills, in Bihar; they were probably excavated by Asoka or his immediate successors. The early monks were homeless mendicants, constantly moving from place to place, preaching the doctrines of Buddha. But in the wet season such a life would be almost impossible, and it was found advisable to utilise this time by gathering the monks together to study the sacred law and discuss matters of business. Following the example of the older ascetics, they sought refuge in natural caves, and then began to adapt these caves to their purposes. Gradually rock-hewn monasteries became the fashion, with porticoes, halls, and cells for the monks. The first were very primitive, but as the masons acquired skill they attempted more ambitious schemes, such as those at Ellora (see pages 259-265) and Ajanta. Each monastery had a shrine, and in some places separate temples were excavated.

The finest and most interesting of these cave-temples is that of Karli, in the Western Ghats. It may have been at first a natural cave, used by monks as early as Asoka's time; but probably the interior was completed, practically as we see it to-day, by the first century B.C. The exterior carvings are of later date. Simple and dignified, the interior of this remarkable sanctuary represents the early age of Buddhist faith and worship. It is about the size of the choir of Norwich Cathedral. It has a well-proportioned nave (lit by a great sun-window over the entrance),

with massive rock-hewn pillars, splendidly carved, separating it from a wide aisle that runs completely round. There is no image; Buddha is represented by a solid rock-hewn stupa under the dome of the apse, where the high altar stands in the choir of a Christian cathedral. A very remarkable feature is the great wooden roof. Experts are convinced that both this and the wooden umbrella that crowns the stupa are of the same age as the temple itself. Both are made of hard, enduring teak, which white ants and other insects do not touch, and as the cave is absolutely dry, there has been no damp to destroy them. There used to be wooden galleries outside the temple, but these have long since disappeared.

When this ancient chapel was in its glory, the interior was finished with a coating of fine plaster called chunam, polished like marble and covered with paintings and gilding. Banners hung from the lofty roof, and votive lamps surrounded the shrine. While shaven yellow-robed monks performed their devotions in the nave, companies of lay pilgrims would enter by the left-hand door, and after passing in procession round the aisle, leave by the door on the right. Now Karli is deserted; its monastery is tenantless; a Hindu priest acts as custodian and officiates at a painfully modern little Durga temple beside the entrance.

Among the caves of the Buddhist period at Ellora is one that in general plan strongly resembles the great chapel at Karli. The roof is of similar design, only carved in the rock instead of being made of wood. There is a nave with hewn pillars and an aisle running round, a great window, and the inevitable rock-hewn stupa. But mark the significant change—a large image is carved before the stupa. It represents Buddha sitting upon a high seat, teaching, and he is surrounded with attendants and flying figures. Such an image would have been absolutely prohibited in the days of Asoka, and for some centuries later. But about the beginning of the Christian era the sculptors of the Hellenistic Gandhara School dared to break away from the ancient tradition, the purity of early Buddhism passed away, and image worship and relic worship gradually took the place of the philosophy Buddha taught. This was not all. When Buddhism died out in India, Hindus took possession of this old sanctuary.



MOST SACRED SPOT IN THE BUDDHIST WORLD, BUDDH-GAYA AMID ITS GARDENS

The great temple of Buddh-Gaya marks the birthplace of Buddhism, where, five centuries before Christ, Gautama became "the Buddha." The Emperor Asoka built a shrine to mark the sacred place, and at a later date the present temple was built. There is no other temple like it in all India, and the visitor is immediately impressed by its graceful and dignified form against the blue sky. It is best seen in the evening when the setting sun lights up its pink walls till they seem to glow with hidden fire.



INMOST SACRED CHAMBER OF BUDDH-GAYA TEMPLE

Though the temple is so large, the sacred chamber is a small, dark, cell-like room, with no window, and illuminated only by the dim light that comes down the narrow entrance passage. The large image of Buddha is tawdrily draped, but forty years ago Hindu priests turned this memorial of Buddhism into a temple of their faith.

and rededicated it to Visvakarma—god of the architects and masons, and by his name it is known to-day. Probably it became the temple or guildhall of the masons who were engaged in excavating the numerous cave-temples around, perhaps even of those who cut the great Kailasa itself.

The image of Buddha remains, for, as we saw at Gaya, he has been degraded from his position as the founder of a separate religion and declared to be a minor incarnation of the Hindu god Vishnu. Here again the early glory and purity of Buddhism have departed, and to-day this old temple is deserted save for the casual visit of a traveller. If on some rare occasion a pilgrim from afar should chance to lay a few flowers at the feet of the image, they quickly fade and seem to make the desolation of this ancient shrine the more pathetic by their presence.

THE GREAT MONUMENTS. III

THE SPHINX

BY MARGARET A. MURRAY

THE SPHINX

BY MARGARET A. MURRAY

Lecturer on Egyptology at University College, London

THERE is no relic of antiquity in the world round which so many legends have gathered as the Sphinx. This is not remarkable when the stately figure is seen rising above the desert sands, dominating even the pyramids themselves by its sheer majesty.

Many of the legends are due to a confusion between the Egyptian and the Greek sphinx. The Greek sphinx, though an equally fabulous animal, is derived from an entirely different source. The Egyptian sphinx is always male, and is a lion with a man's head or face; whereas the Greek sphinx is female, a lioness with a woman's head. The Greek form comes probably from the harpy, and seems to be the origin of the modern idea of an angel, that is, a winged human being with a woman's face. The Egyptian sphinx is an emblem of the king in his aspect as the incarnate God, and represents omnipotence. It is impossible to imagine so majestic a being as the Egyptian sphinx propounding silly riddles and committing suicide when the right answer is given.

The date of the Great Sphinx is not known accurately—it is usually ascribed to the reign of King Khafra, who built the Second Pyramid. It is partly sculptured in the solid rock, partly built, and represents a couchant lion with a human head; the headdress is of a form worn only by a Pharaoh, and on the brow was the royal snake; therefore, it clearly represents a king. Though the paws were rebuilt in Roman times, the tiny temple, only five feet wide, which lies between them is probably as early as the Sphinx itself. Standing at the end of this temple against

the breast of the Sphinx is the Dream-stele of Thothmes (or Thutmosis) IV., placed there probably in the twenty-first dynasty. It is a poetical account of how the monarch, wearied with hunting, slept at midday under the shadow of the Sphinx and beheld a vision. The Sphinx is there called Harmakhis or Khepra, both of whom were at that time regarded as sun-gods. "Great and exalted is this figure of the god, resting in his chosen place; mighty is his power, for the Shadow of the Sun is upon him. The temples of Memphis and the temples of every town on both sides adore him, they stretch out their hands to him in adoration; sacrifices and libations are made before him."

The approach to the Sphinx in ancient times was by a processional way which led across the desert, then down a flight of thirteen steps, across a stone platform, and again down another flight of steps, thirty in number, to the level of the little temple between the paws. The visitor to this temple, on arriving at the top of the processional way, would be on a level with the breast of the Sphinx; as he descended, the figure would appear to grow more and more gigantic, until, when he reached the temple, the great statue towered above him, gazing into space with the far-seeing eyes and aspect of calm contemplation which, in spite of the mutilation of the face, makes the Great Sphinx the most impressive of all the remains of the ancient civilisation of Egypt. By day or by night, at broad noontide or by the mysterious light of the moon, the majestic quality of this monument, its regal air and divine calm, prove it one of the masterpieces of the world.

Excavations were made round the Great Sphinx by Captain Caviglia in 1818, when the processional way and the temple between the paws were discovered. In 1837, Col. Howard Vyse made borings to the depth of more than twenty-seven feet in the back of the Sphinx, finding only solid rock. These are practically the only excavations round the Sphinx which have been recorded.

The actual size of the Sphinx is difficult to ascertain owing to the continual shifting of the sand. It is said to be 66 feet from the pavement of the temple to the top of the head, but the gigantic size is perhaps best realised by the measurements of the face, which is 13 feet 8 inches across, the nose is 5 feet 7 inches, and the mouth 7 feet 7 inches long. The face was mutilated by a

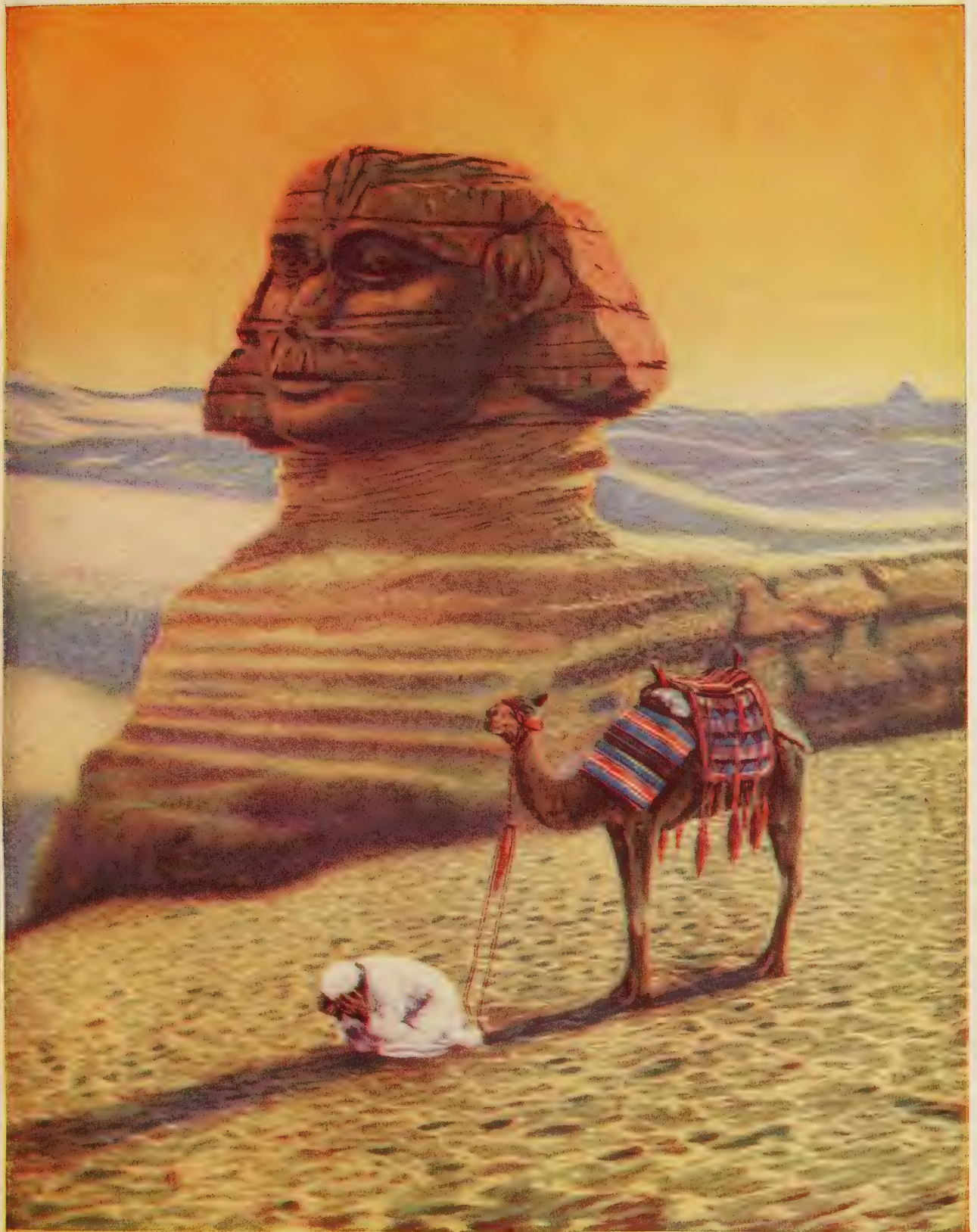


Photo by Donald McLeish, specially coloured for "Wonders of the Past."

OBEYING THE CALL TO PRAYER BENEATH THE SHADOW OF THE SPHINX

Rock hewn from one of the ribs of earth, the Sphinx, carved nearly five thousand years ago, is older than the desert itself that is ever trying to bury it. It probably resembled a crouching lion long before it felt the touch of chisel or stone hammer. The Arabs know it as "abu 'l hol"—father of terror—and relate that it guards the valley from the drifting sands; a belief that may have come down to them from the superstitious awe of earliest man in Egypt for the lonely lion rock.



Photo from W. M. Flinders Petrie.

THE SPHINX: HALF-BURIED, BROKEN, SCARRED BY TIME, BUT GRAND IN ITS DECAY

As elsewhere indicated, there is reason to suppose that the Sphinx is a portrait of Khafra, or connected with him in some way; its uræus crown shows that it represents a king, and the proximity of the entrance temple of Khafra's pyramid, seen in the foreground of this photograph, together with recent archaeological discoveries, supports the theory. It must be recorded, however, that the inscription on the Dream-stele of Thothmes IV. (eighteenth dynasty), which is placed between its paws, connects it with the name of Khufu, builder of the Great Pyramid seen in the background.

Dimensions

	Approx.
Height from head to base	75½ ft.
Length	164 "
Fore legs and paws	56 "
Head from crown to chin	33 "
Breadth of chest	36 "
" " face	13½ "
Mouth	7½ "
Nose	5½ "
Ear	5 "



HYPOTHETICAL EXCAVATION TO SHOW THE DIMENSIONS OF THE GREAT SPHINX

1. Present size of headress; only the upper part is still preserved. 2. The beard has disappeared, only parts of its support remaining intact. 3. Present level of surrounding desert. 4. Stela of Thothmes IV. 5. Small roofless temple, once uncovered, excavated by Caviglia. 6. Altar in front of entrance. 7. Thirty steps. 8. Small raised altar set up in Roman times. 9. Thirteen steps. 10. Wall of sun-dried bricks of unknown extent. 11. Sand; practically the whole space here shown cleared is actually unexcavated.



Photo by Ewing Galloway.

SPHINX OF THOTHMES III. FROM KARNAK

Before the entrance to the Museum at Cairo, where so many of the Egyptian antiquities illustrated in this work are preserved, stand two andro-sphinxes, of which this is one, bearing the name of the eighteenth dynasty king, Thothmes III.



Photo by H. Fawcett.

HEAD OF THE SPHINX FROM BEHIND SHOWING THE BROKEN HEADRESS

Between the paws of the Sphinx a small open-air temple was discovered by Caviglia during the course of his excavations in 1818, and in this temple the stele of Thothmes IV., already referred to. From this we learn that it was necessary to free the Sphinx from sand even in those days; and in Roman times also restorations were carried out. For though the Sphinx was hewn from the solid rock, blocks of stone had to be used to eke out the work; and these, owing to their dilapidation, the Romans refaced.



Photo by H. Fawcett.



TWO VIEWS OF THE ANDRO-SPHINX DISCOVERED ON THE SITE OF MEMPHIS

From the fourth dynasty onwards we meet many Sphinxes of many kinds—lions with human heads, like the Great Sphinx; crio-sphinxes with rams' heads; falcon-headed Sphinxes or wingless gryphons; and couchant rams which resemble Sphinxes only in their attitude. Most notable are the vast avenues of Sphinxes at Karnak; the above example was discovered on the site of Memphis, and is an andro-sphinx, probably from the reign of Rameses II. of the nineteenth dynasty.



Photos: Left, by Alinari, from the Museum at Delphi; right, by permission of the Trustees of the British Museum.

THE SPHINX IN GREEK ART: LEFT, THE ARCHAIC "SPHINX OF NAXOS" FROM DELPHI; RIGHT, MATURER STYLE.

The word "Sphinx" is not Egyptian, but Greek, and arose through the Greeks identifying the Egyptian statues with a similar monster of their own mythology. Now there are many arguments seeking to derive the Greek from the Egyptian Sphinx, but this would appear to be an unnecessary assumption, in view both of the essential differences between them, and of the fact that such half-human creatures seem characteristic of a stage of art from India to the Maya. The Greek Sphinx is winged, a woman and a demon; the Egyptian, wingless, male, and a piece of almost conscious religious symbolism typifying the might of royalty—it hardly appears in mythology. The Greek monster, connected with sudden death, often pictured on tombs, and occurring in the legend of *Œdipus*, seems to have greater affinities with the composite demons of *Babylonia*.



Photo by Donald McLeish.

WITH THE MYSTERY OF THE AGES IN ITS HOLLOW EYES: THE SPHINX AT GIZEH

In view of the doubt which exists as to the exact origin and meaning of the Sphinx, the feeling of mystery with which it inspires all who behold it assumes a very definite aspect for the practical archaeologist. At the time of the eighteenth dynasty, when the Dream-stele of Thothmes IV. was inscribed, it was taken to be a figure of the god Harmachis; and it may well be that the rock was an object of veneration long before the fourth dynasty king, Khafra or another, had it carved in his likeness.



Photo by Underwood Press Service.

THE SPHINX, A COUCHANT SENTINEL ON THE BORDERS OF THE DESERT WASTES

Stern yet benignant, half-smiling, wholly mysterious—how much of the ineffable expression of the Sphinx is due to the original artist, and how much has been worked on its features by the chisel of Time? The face was once coloured red, but only traces remain; the neck has worn too thin for such a mighty head; parts of the headdress have fallen; and beard and face have been mutilated by Arab fanatics. Perhaps, reluctantly, if we saw it in its prime, we should confess it much like other Sphinxes.



Photo by Ewing Galloway.

SUPPOSED TO COMMEMORATE KING KHAFA

The Great Sphinx of Gizeh in Egypt, most ancient and renowned of all sphinxes in all countries, and known to the Egyptians as "Hu," gazes due east across the Nile valley, with its back to the Second Pyramid shown on the right of the photograph, with which it appears to be associated.



Museum of Egyptian Antiquities, Cairo.

KHAFA AS CHISELLED 5,000 YEARS AGO

Everything points to the Sphinx being a product of the fourth dynasty, and it is possible that its head is a portrait of Khafra, the builder of the Second Pyramid; although some think that alterations were carried out under the twelfth dynasty, especially of the head-dress.

fanatical sheikh, and afterwards by the Mamelukes; the nose, beard, and headdress have suffered most. Part of the beard is now in the British Museum—it shows the plaited form characteristic of Egyptian royal statues.

The Great Sphinx is not mentioned by classical authors until the time of Pliny (in the first century A.D.), who says that it was traditionally reputed to be the tomb of Amasis II. of the twenty-sixth dynasty. This is probably due to the fact that the remembrance of the romantic and gallant figure of that successful leader and general still lingered even after the lapse of six centuries. The modern name of this giant figure is “abu ’l hol” (father of terror), a name which appears to be derived through the Coptic “belhèt,” from the Egyptian “hu,” and means guardian, watcher. The Arabs consider it a talisman against the drifting sand which continually threatens to overwhelm the cultivated land. Tradition also says that at one time there were two Great Sphinxes which guarded the whole country; like most traditions, this contains a substratum of fact, for colossal statues of the king were usually in pairs.

Sphinxes of all sizes are known from the time of the Great Sphinx onwards. The largest of these is the alabaster sphinx found by Mackay at Memphis in 1912; from the style of the workmanship it is evidently of the reign of Rameses II. The quaintest of all are the tiny amulets carved in amethyst and other stones which occur in the twelfth dynasty; they represent a feline animal, possibly a cat, with a human face; but it is represented sitting, whereas the lion-sphinx is couchant.

Avenues of sphinxes are often found at the great temples; the most celebrated are the crio-sphinxes at Karnak (see illustrations facing page 192), which outline the sacred way from the river to the temple. These are couchant lions with rams’ heads, and are emblematic of the good Ammon of Karnak, who was worshipped in primitive times under the form of a ram. Even in this strange form the sphinx is impressive, and the avenue of crio-sphinxes is a fitting prelude to the majestic solemnity of the temple of Karnak.

Another form of sphinx is the lion with a hawk’s head. This is the emblem of the king in battle, and it is represented standing and trampling the enemy—negroes and Syrians—under its feet.

It is a favourite motif in the decoration of objects for royal use, and is used with great effect in jewelry and in ornamenting caskets. In jewelry the colouring of the hawk's head and the contrast of the fair Syrian and the dark negro gave the artist-designer great scope; and the calm dignity of the creature contrasts with the undignified attitudes of the overthrown enemies.

The sphinx does not occur as a hieroglyph until the late period when the language had been considerably changed by foreign influences, chiefly Greek and Persian. It reads "neb" as lord, and is used in the name of Nectanebo, one of the last native kings of ancient Egypt.



Photo by Underwood Press Service.

OUTSIDE THE ARCHWAY OF A BRICK TOWER CROWNING THE WONDROUS WALL

The construction of the Great Wall does not appear to have been pursued in an uninterrupted line from beginning to end; rather, it was begun at several points—those crossing the most important routes—and the gaps were filled up later. Moreover, it was only at these points that brick and masonry were employed, the remainder being of undressed boulders and earth, although many of these sections were subsequently strengthened and faced with masonry by the Ming Emperors of a later age.



Photo by Underwood Press Service.

WHERE THE GREAT WALL DIVIDES AMONG THE STONY HILLS OF THE NANKOW PASS, FORTY MILES FROM PEKING

The Great Wall does not consist of a single line throughout the whole of its extent; there are curtain-walls and "festoons" at several points. Peking, for instance, is guarded by a double wall, the two fortifications dividing north of the city, separating by almost a hundred miles in places, and rejoining again close to the first crossing of the Hwang-ho (Yellow River). From the centre of the inner wall, another runs southwards for about 180 miles between the provinces of Chih-li and Shen-si, and there is a further curtain in the province of Kan-su, towards the wall's western boundary, which also runs southwards, and protects the frontier where China proper marches with Tibet. It is at the Nankow Pass that the railway pierces the wall.



Photo by Underwood Press Service.

PORTION OF THE GREAT WALL BY SHAN-HAI-KUAN, ON THE EASTERN OCEAN

This photograph shows the Great Wall crossing the plain between mountain and sea and winding upwards over the barrier, close to its point of commencement at Shan-hai-kuan in the east. It originally abutted right on the shore, but the seaward portion no longer exists. Other parts of it have been destroyed, and in places it is represented by little more than an embankment, but for the greater part of its length it stretches an unbroken line of masonry and brick, marvellously undamaged, for mile upon mile.



Photo by Underwood Press Service.

VIEW ALONG THE GREAT WALL THROUGH AN ARCH IN ONE OF THE WATCH-TOWERS

Built to restrain the fierce and dreaded Tartar and Mongol tribes of the North, the Great Wall, mighty in its conception, was yet of little practical use against them. Time and again they broke through, and the terrible Mongol, Jenghiz Khan, found it but an ineffectual barrier on his invasion in 1212. Chinese poets lament the trail of war, and Li Hua of the ninth century has left a vivid imaginary picture of some old Tartar victory, when "the dykes of the Great Wall brimmed with blood," and the wounded died of cold.

THE MASTER BUILDERS. III
THE GREAT WALL OF CHINA

By F. HADLAND DAVIS

THE GREAT WALL OF CHINA

BY F. HADLAND DAVIS

Author of "Myths and Legends of Japan," "Japan: From the Age of the Gods to the Fall of Tsingtau," etc.

LESS than forty years ago reports appeared in English newspapers to the effect that the Great Wall of China was a myth. So far from being a myth, it is the most stupendous example of human achievement. The Hanging Gardens of Babylon, the walls of the Romans, and even the Great Pyramid, are not to be compared with what the Chinese have called the Wan-lich'ang Ch'ên, or Wall of Ten Thousand Miles. It forms the northern boundary of the Chinese Empire, and stretches from Shan-hai-kuan, on the Gulf of Liau-tung, to the Kiayu Pass, near the Tibetan mountains.

Measured in a straight line its length is 1,255 miles, but when we take into account its many sinuosities, we must add to that figure another 250 miles. Its height varies from 15 feet to 30 feet. The breadth at the base is about 25 feet, and at the top 15 feet, but the western section of the Wall is on a less impressive scale, and where the Barrier passes through long stretches of loess formation, the loamy deposit is hewn down in the shape of a wall and faced with brick or stone. Hundreds of years ago, when the Great Wall was a military defence, it was strengthened with over 25,000 towers and 15,000 watch-towers, and to-day, when much of the glory of China's wonder has departed, it is estimated that 20,000 towers and 10,000 watch-towers remain.

The most vivid imagination can scarcely conceive a wall more than 1,500 miles long; but China is a country of walls. There are so many that if we add their length to that of the Great Barrier they would exceed the diameter of the earth! It

has always seemed remarkable to me that Marco Polo, who wrote so much of what he saw in China during the reign of Kublai Khan, should have left the Great Wall unrecorded. It is almost as extraordinary as the pathetic story of a Chinese peasant who lived close to the Great Barrier, but had not seen it because much labour had bent his back and he had never looked up, though he would take with smiling approval a pill composed of crushed stone from the Great Wall, well mixed with a pulverised mouse! The amazing Chinese pharmacopœia has a medical use for almost everything.

In 221 B.C. a remarkable man came to the Chinese throne. He assumed the title of Shih Hwang Ti, the First Emperor, and in so doing set aside the long and illustrious line of his predecessors. He abolished the feudal system, and divided the country into provinces; but our chief interest in his career is to be found in the fact that, like so many of the Pharaohs, he centred his ambition in various building enterprises. He built a great palace in his capital and a hall capable of seating 10,000 people. He caused to be erected in the Imperial Forest Park his wives' palaces planned in such a way that they resembled a map of the starry heavens. In 214 B.C., having accomplished these and other wonders, he turned his attention to building a wall "one-twentieth of the circumference of the earth." Was his colossal enterprise prompted by personal vanity? Did he wish to leave his name in stone for ever? It is more than probable that in this achievement he aimed at lasting fame; but there is an old Chinese saying, and a true one: "Have no fear of the tiger from the South; beware the rooster from the North." The First Emperor had been warned in a dream that disaster would come from the North. As a Taoist he was extremely superstitious, and gave heed to all manner of signs and portents. However, it needed no prophetic dream to reveal the fact that China's danger lay in the North, for from that quarter the people of the Celestial Kingdom had constantly suffered.

It is said that Hwang Ti pressed into the service of the building of the Great Wall every third able-bodied man in the kingdom. He had previously burnt the Chinese classics, including the revered works of Confucius, and spared only books dealing with agriculture, medicine, and necromancy. It is important



Photo by Underwood Press Service.

TWO OF THE TOWERS AND ONE OF THE WATCH-TOWERS ON THE GREAT WALL

When it was intact there were in all about 25,000 towers and 15,000 watch-towers along the serpentine course of the mighty Wall, and to this day military posts are still maintained at its principal gates. Time was when all along its bastions of the frontier guards kept ward against the Tartar hordes, gazing out through the bitter northern weather, "watching from the high tower the driven mist on the hills," in the words of Po Chu I, a ninth century Chinese poet. But little availed their watching or their suffering.



Photo by Underwood Press Service

SUMMIT OF THE GREAT WALL OF CHINA WHERE IT CROSSES THE NANKOW PASS

Winding up hill and down dale, over valley, mountain, desert, and river, the Great Wall of China runs its one and a half thousand mile course from Shan-hai-kuan on the Liau-tung Gulf to Kiayu-Kuan on the borders of the great Gobi Desert, near Su-chow. It was begun in the third century B.C. by Shih Hwang Ti, but not completed until many years afterwards under his successors; indeed, the final touches were only given it during the great restorations under the Ming Emperors in the fifteenth and sixteenth centuries.

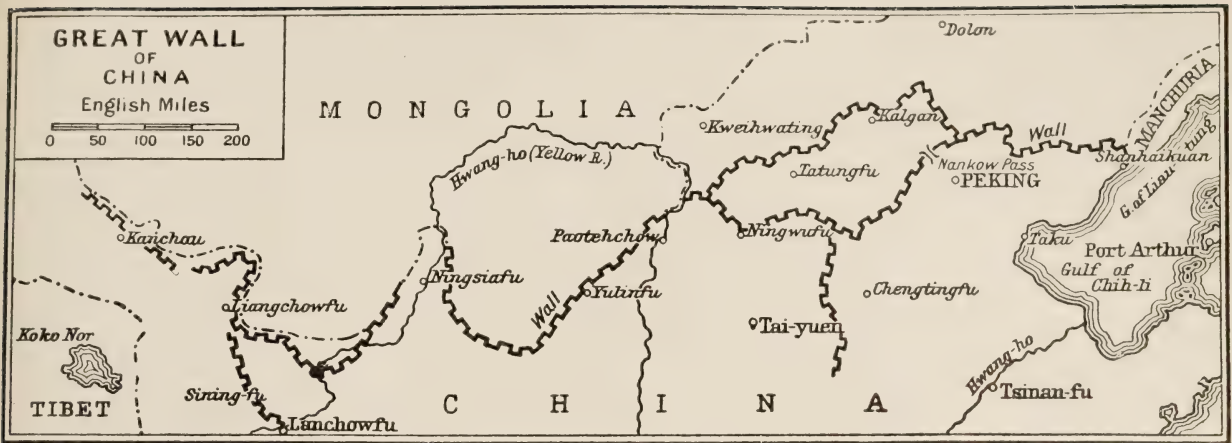


Photo by Underwood Press Service.

TWISTS AND TURNS OF THE DRAGON-WALL THAT GUARDS THE YELLOW LAND

When men looked round them for a further Seven Wonders of the World to replace the older seven, largely vanished, the Great Wall was included. It is surprising that Marco Polo, the Venetian traveller of the thirteenth century, does not mention it; but he appears to have crossed it in the neighbourhood of Ezina (Edzin) and Kan-chow, where in parts it only consists of an earth mound. And at the court of Kublai Khan, the Mongol Emperor of China, it would hardly be held in great respect as an effective fortification!

to emphasise the burning of the books, or rather writing carved upon bamboo tablets. Wisdom expressed in masterly language has always been China's most precious possession, scholars being regarded as of more account than kings or wealthy merchants. The First Emperor's wanton act was never forgotten or forgiven, notwithstanding that his attempt to suppress the work of great Chinese teachers proved abortive. He is remembered to-day by the learned classes in China, not as the builder of the Great Wall, but as he who burnt the books. If historians have been busy calling him all manner of bad names, Hwang Ti did not hesitate to punish refractory scholars, or judges, who had given offence, by forcing them to work upon the Great Wall. If rich or poor, learned or simple, gave trouble, they were promptly dispatched to add their quota to the vast fabric of stone and brick. We can picture a scholar, familiar with the ethics of Confucius, fumbling with heavy stones. He would only fumble once. Were he seen by an overseer to be inefficient, he would be killed, his body thrown into the Wall and crushed into its foundation. How many perished in this way is not recorded, but such a name for the Great Wall as "The Longest Cemetery on Earth" conveys the impression that China's mighty Barrier contained much that once quickened with human life.

The Great Wall was not completed during the life of the First Emperor, and we do not know how much was accomplished during his despotic rule. It was Liu Pang, first of the Hans, who laboured to put the finishing touches to the tremendous Barrier, and to some of the Ming Emperors is due elaborate reconstruction in regard to the Wall and towers. They faithfully followed the tortuous line planned by Hwang Ti, and it is their work, with more modern additions, that remains to be seen by the traveller to-day.

An undertaking on so vast a scale was inevitably associated with numerous highly-coloured legends. The First Emperor was regarded by the credulous as a great magician who rode a celestial horse whose rapid flight marked out the line of the Great Wall. We are told that Hwang Ti made use of a whip that removed mountains and controlled the waters of the Yellow River. We hear of giants of superhuman strength who per-

formed many marvels in the use of stone, of divinely revealed treasure in the Great Wall, and tales of love and high adventure. With such an accumulation of fanciful stories it is not surprising to find that there are those living to-day who do not regard the Great Wall as a barrier against human foes, but go so far as to suggest that it was a huge stone dragon intended to counteract the effect of evil spirits. Notwithstanding the use made of geomancy in the First Emperor's day and images of deities that still protect certain passes, we are on safer ground if we assume a less fantastic conception and regard the Wall bounding the north and north-west of China as a means of defence against the barbarians. The expense and human suffering entailed in its construction were such that a facetious writer observed: "The Chinese never got over it. But the Tartars did." It must be admitted that the Great Wall, as a military defence, was far from being a success, and was not half so useful as the Grand Canal. The Great Barrier did not prevent the coming of Jenghiz Khan, the first foreigner to rule China, and it was impotent to stay the assault of the Manchus. The amusing account of battle scenes, described in "The Wallet of Kai Lung," is by no means a travesty of the truth. The Chinese have never been a warlike people, and a far-flung barrier and numerous towers were of little use without efficient soldiers to defend them.

How was the Great Wall made, and what form did it take? We are told by one authority, Dr. W. E. Geil, that the towers were probably built first and the Wall linked up with them. As a rule, the Great Barrier "followed the line of greatest natural resistance," a scheme that necessitated negotiating mountain chains. That such a task was successfully accomplished is one of the most striking examples of human effort. It conveys little idea of the labour entailed when we say that furrows were cut on the crest of mountains, and that between these furrows, about 25 feet apart, were placed huge granite blocks, and upon them clay bricks, in header formation, with a final surface of well-rammed earth. According to local legend goats were used to carry stone to the high ridges, but it is more probable that the blocks and bricks were borne by long-suffering men, who may well have thought of the Chinese saying: "Without tasting of bitterness we never reach the highest" when they were struggling up a pass,



Photo by Underwood Press Service, specially coloured for "Wonders of the Past."

"THE WALL OF TEN THOUSAND MILES": CHINA'S MIGHTY TRIUMPH IN STONE

At no part of its immense course is the Great Wall of China better built or more complete than at the Nankow Pass. Here it is nearly 30 feet high and 20 feet broad at the base; the lower courses are blocks of masonry, with a brick parapet to crown them, and the towers and watch-towers are in the main unharmed. How the Emperor thought to defend such a mighty line is a mystery. Was it merely a tour-de-force, a boast of power? Among those who were forced to labour on it were all convicted of being in possession of books, and there is a tradition that the bodies of those who died or were killed in its construction—and they were many—were cast into the grim foundations.

between Liang-chow-fu and Lan-chow-fu, where the Great Wall is over 4,000 feet above sea-level. Work in the desert regions was naturally of a different kind, and to prevent the encroachment of wind-blown sand it was sometimes necessary to build three outer walls capable of protecting the main line of the Barrier.

It is difficult to define the shape of the Great Wall. It twists and turns like a mighty serpent of stone. It scales mountains, plunges into ravines, bears the heat and dust of the desert, crosses streams, a great grey monster that knows no obstacle, however formidable, unless we except the White Meteor, which deflected its natural course. Seen beneath a blazing sun, the silver glitter of stars, or when it is touched by the white hand of snow, it remains the Wall of Walls, a wonder of beauty and strength and human endurance. It has three immense festoons; one in the mountains, another in the loess, and a third in the desert. Time has played in a freakish way with the Wall in places, for at one spot it resembles a huge bird with swelling neck and far-stretched tail, but in contrast to this stone oddity is the Great Barrier at Ch'achien-kow, erected by the Emperor Wan Li. Here wall and square towers are still in excellent preservation.

Bearing in mind what the Great Wall must have been in the past, rather than what it is now, with trains rushing through one of its gates, we can conceive its once undiminished glory. Having overcome so many difficulties, having wound its way into depths, stood strong upon the mountain-tops, battled against wind and rain and sand-storm, unmoved by the waters of the Hwang-ho, or by the noise of vast armies, indifferent to the murmur of innumerable caravans, there seems no reason why the Great Wall should come to an end, why the stone mammoth should cease its wanderings so long as it could find foothold in the world. It guarded Peking, the Forbidden City, and ended near the confines of Tibet, the Land of the Living Buddha, passing from mystery to mystery with sublime unconcern, every inch of its winding course rich with human memories. It started within sound of the Yellow Sea, and ended on a precipice, two hundred feet high, bounding one side of the Big White North River. The Great Wall was strong and glorious to the last.

The stone mammoth stopped, but with raised head on the heights, as if conscious of its tremendous victory.

Two tablets mark the east and west end of the Great Wall. On one is inscribed: "Heaven made the Sea and the Mountains," and on the other: "The Martial Barrier of All under Heaven." There is something reverential about the one, something that shouts of a great work accomplished about the other. What an undulating, curving line of wall between these two tablets! Cities and tombs and monuments have been sheltered behind the Great Wall for hundreds of years, and China's teeming millions have poured in and out of its many gates. We may write of the towns through which the Great Wall passes, of the famous Ming Mausolea, of temples and pagodas, of the "Language Arch" at the Nankow Pass, and of a thousand other sights that are to be seen in the vicinity of the Great Wall, but many will turn with most interest to the Mound of Chin, about a mile from the Black Horse Mountain, where the First Emperor was buried with his wives and concubines and those who built his last resting-place, with its alleged river of quick-silver and grim stories of a coffin that moved at the approach of man. At the top of the Mound is a hole, and to this day the idle throw stones into it. *Stones!* Could anything be more ridiculous? For he who was buried beneath had achieved a triumph in stone, had fashioned across his kingdom the greatest and most wonderful Wall in the world.

ANCIENT ARTS AND CRAFTS. IV
MARVELS OF THE POTTER'S ART

By T. ATHOL JOYCE, M.A.

MARVELS OF THE POTTER'S ART

2. IN SOUTH AMERICA

BY T. ATHOL JOYCE, M.A.

Deputy Keeper, Department of Ceramics, British Museum

BELOW we print a chapter on the exquisite pottery of the early South American civilisations which knew not the wheel; it is only necessary to compare the photographs (which have been specially made by permission of the Trustees from exhibits in the British Museum) with those illustrating the chapter on the pottery of Mediterranean lands (pages 425-429), to realise the tyranny of form which may be exercised by that extremely useful invention.—EDITOR.

THE practice of fashioning vessels from clay dates from an early period in the history of mankind, but, though widespread, it is not associated with every form of human culture. To speak generally, it belongs to the sedentary, agricultural life. Nomadic tribes as a rule do not manufacture pottery, which is too fragile a material to withstand the vicissitudes of a wandering existence. Their vessels are made of basketwork, wood, bark, hide, or even stone.

Where the first pot was fashioned, whether there was one inventor or many, we cannot say, but the moulding and baking of the first clay vessel in any tribe marked a distinct cultural epoch. The second great epoch dates from the invention of the potter's wheel, an appliance which enabled the craftsman to work far more rapidly and to impart to his material a more regular shape. But, important as the wheel may be as a labour and time-saving appliance, its position in the history of art is far less significant than in the history of economics. Art is independent of mechanical aids and, indeed, is often hampered by them. One result of the development of mechanical appliances

is that the artisan gets more and more out of touch, and out of sympathy, with his material, and so the artistic value of his products is impaired. There are few more striking examples of this fact than that afforded by the sheer disharmony of form exhibited by most of the pottery vessels produced by modern civilisation. The purpose of this chapter is to illustrate some of the masterpieces in clay moulded by the artist-artisan in communities to which the potter's wheel was unknown.

The scene is the American continent, centuries before the coming of Columbus, where the more sedentary tribes, from the Pueblo Indians of Arizona and New Mexico to the inhabitants of southern Peru, had developed a proficiency in the ceramic art, both technical and artistic, unequalled by any other people at a similar stage of civilisation. Throughout the length of the American double continent the principle of the potter's wheel was unknown, and though mould sand stamps were employed in the later stages of the art, the present survey is confined to the earlier periods when such appliances were not yet in use.

The date of the earliest wares which display so remarkable a perfection is not very remote in the history of mankind. The master craftsmen among the potters of America lived somewhere between the first century before Christ and the third century after, and were thus contemporary with the artists of the great Han period in China. But the stage of civilisation which formed their cultural environment was far earlier. They were still, for all practical purposes, living in the age of stone. Gold and copper they knew and used for the manufacture of ornaments. But the former is useless as a material for tools, while the latter was too rare and too soft to be employed, save in exceptional instances, for aught but the making of "jewelry." But the pottery which these early artists produced, in spite of the simplicity of their methods, was obviously the result of long experience and repeated experiment.

It is not a simple matter to produce a finished vase from a lump of clay. The clay itself requires, usually, a definite process of preparation. In most cases the admixture of some levigating substance, sand, powdered potsherds, or the like, is essential; the building of the vase, with uniformly thin walls, to ensure consistency in firing, is expert work. Then the baking in an open



SPLENDID PIECE OF PORTRAIT POTTERY

Decisively modelled, this old Peruvian portrait is full of character and dignity. The shape of the single-spouted vase is typical of the Truxillo region, and a fine cream slip, upon which hands and drapery are painted, contrasts admirably with the red-brown face above, with its humorous expression.



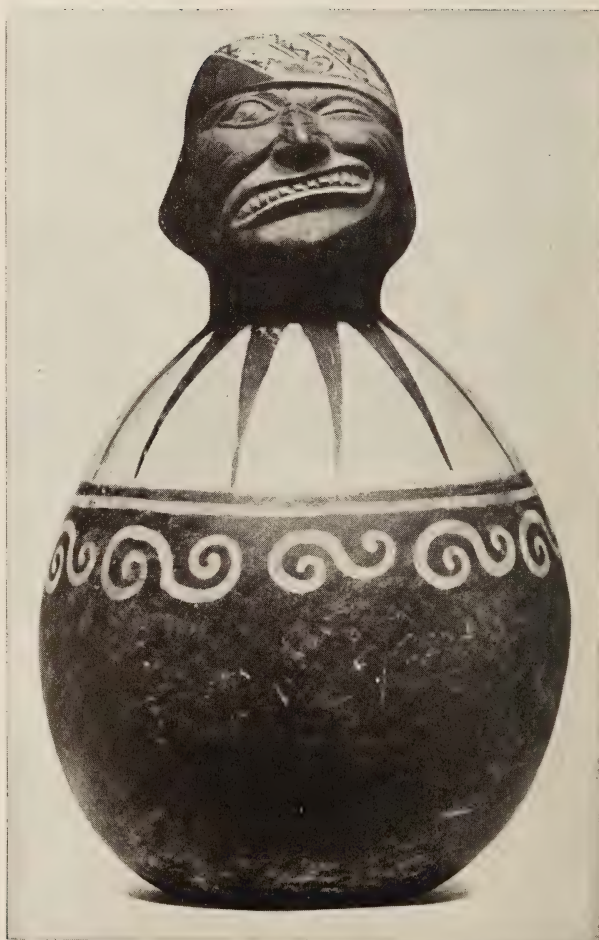
PERUVIAN MUMMY WITH PUMA CREST

This old Peruvian vase, handleless, with a big spout at the back, seems to represent a mummied dignitary, swathed in funeral wrappings and wearing breast ornament and headdress showing two pumas. The face is painted with red patterns, and a line runs down the nose.



AN ANCIENT PERUVIAN PIPER

This vase (the spout emerges at the back of the photo) represents a musician of far-off days in the sunny Chicama Valley of North Peru. Observe his decorated cap, with its shoulder-piece, and details of dress. The piper wears ear and breast ornaments.



THE POTTER TURNS CARICATURIST

A fine example of humorous portraiture by an old potter of the Truxillo region. This vase is without a handle, and liquid was poured through an opening in the crown of the head. Below the V-pattern collar, red on cream, are cream scrolls on red.



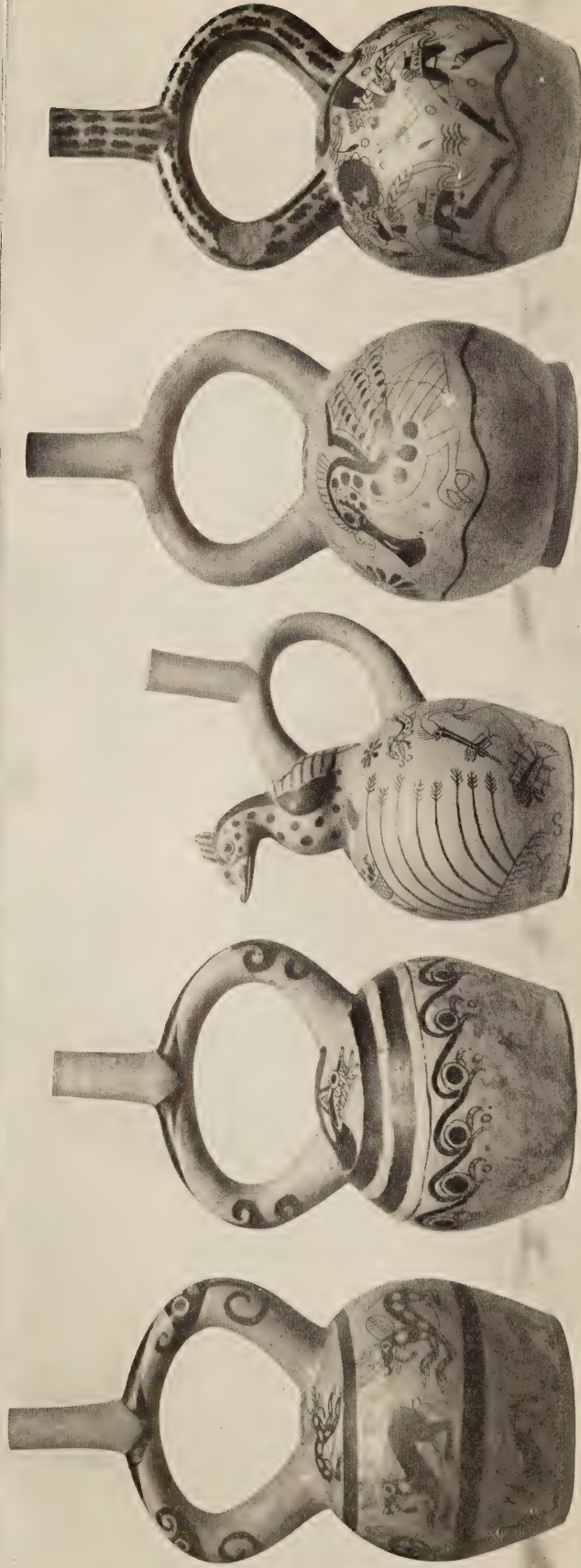
WARRIOR OF 2,000 YEARS AGO

This vase from the Chicama Valley, moulded in low relief, painted in cream, outlined red, on a dark red ground, shows a fighter, armed with spear-thrower and spear, wearing puma heads on belt and headdress, being carried off by his successful opponent.



PORTRAIT VASE FROM PERU

The craftsmen of the Truxillo region of the Peruvian coast developed, long before the Inca conquered these tribes, a mastery over their material that has never been surpassed. Witness this portrait vase of red clay, beautifully modelled.



THE MASTER POTTERS OF PERU REVELLED IN DESIGNS OF LIVING FORMS

1. Owl-face, red, emerging from cream-coloured swathings. 2. Sleeping man, with head resting on crossed arms; he wears a pointed cap, with incised pattern, chin-strap, and ear-plugs. 3. Sea lion, carrying a fish in its mouth (red and brown). 4. Seated human figure, cream colour, wearing puma headress; a metal crescent hangs from the nostrils. 5. Vase modelled as a monkey, swathed in mummy wrappings. 6. Vase (cream slip, red ornament), showing two rows of deer, with antlers and exaggerated ears. 7. Snake motifs; birds' heads round middle (cream slip, red design). 8. Modelled in water-bird sits on vase-top, spouted handle turned backwards. On vase-body are painted rushes with herons feeding and a bird's nest on left. 9. Pelicans and flowers (red design, cream slip). 10. Cere-
monial dance; figures wearing headresses, probably representing the animal-ancestor of the clan.

or, at best, a smothered fire requires the judgment of experience. All these processes imply a long series of experiment, failure, and reinception, and to the mere technique must be added the long training through which alone the fingers can mould the vessel to a harmonious shape; while the question of ornament, especially of painted ornament, carries the question still further, because it implies a knowledge of pigments which will produce the required effect after passing through the ordeal by fire.

As far as we can judge, the aboriginal American potter moulded a thin plate of prepared clay to form the base of his vase, and built up the walls by adding further strips of clay to the edges, working by a spiral process; handles and ornamental details in relief were moulded separately and applied to the body, which was then covered with ornament in "slip," a creamy wash of finely-dissolved clay, tintured with various mineral substances which, experience had proved, would produce the desired result after firing. The finished results, however "primitive" the method, for beauty of shape, spacing of design and, occasionally, variety and harmony of colour, challenge comparison with the ceramic products of the rest of the world.

For instance, the coastal region of Peru, centuries before the Incas rose to power in the highlands, was peopled by a series of tribes who, as artists and craftsmen, have had few equals. From their graves, which are supposed to date to the beginning of the Christian era, have been collected pottery vessels fashioned with a skill, and decorated with a taste, of the highest order.

There were two "schools" of ceramic art, one in the north, in the region of modern Truxillo; the other in the south, in the region of the Nasca Valley. These "schools" appear to have been contemporary, but there is a very wide difference between them. The Truxillo artist concentrated his energies upon form and modelling, the Nasca artist upon colour. Pots in the early Truxillo style (usually known as "proto-Chimu") fall into two main classes. One consists of a globular body with a vertical loop-handle surmounted by a perpendicular spout, and this class is usually ornamented with spirited drawings in terra-cotta red upon a cream-coloured background. This type is interesting apart from its perfect symmetry and proportions; it was, in a sense, dictated by the local conditions. Rain falls but once in

six years upon the Peruvian coast, and the early inhabitants were dependent for their water supply upon aqueducts which had their source in the mountains. The water problem was serious and water was precious. Hence a water-vessel with a narrow mouth was essential, in order to minimise evaporation. But pouring from a single narrow spout is a slow process, because the air cannot enter readily. The loop-handle with its double channel provided the answer, and furthermore provided a convenient means of attachment to a belt.

The other class is the modelled ware, and in this the peculiar genius of the Truxillo artist manifested itself. The form is infinite in variety; upon the exquisite vessels are represented the figures of men and women, often engaged in various occupations, moulding pots, or perhaps playing musical instruments; while others display animals, birds, fish, insects, and various fruits and vegetables. Most American art is highly conventionalised, but here we have a most astounding realism. Many of the human figures are so alive that they must have been portraits. We can see what manner of men these vanished artists were; we can reconstruct their clothes and ornaments; we can catalogue their weapons, musical instruments, and the implements of their crafts, their dwellings and their food; we can even gather dimly some ideas of their religious beliefs. But in the finer specimens it is the astounding realism, and often the humour, which is the most striking feature.

The necessity for a narrow-mouthed water-vessel was equally pressing for the inhabitants of the Nasca region, but they solved the problem by fitting their bottles with two narrow spouts, connected by a solid band which served as a handle. At the same time the beaker and bowl form was common in that area. Modelled work is rare and not of high excellence, but the feature which distinguishes the ware of Nasca is constituted by the variety and purity of the slip-colours employed in decoration and the vigour of the designs. It is a fair statement that no people at a similar stage of civilisation have had at their command such a variety of colours, applied to pottery, as the clay-workers of Nasca.

Common in the Truxillo region, though less frequent at Nasca, are vases fitted with a whistle, which is sounded by the



Left: Open food vessel, design of humming-birds painted on a cream slip. Centre: Two handled vase with conventionalised bird design. Right: Dark red and buff bowl, with cream panels on which are painted designs of a quaint figure holding bunches of aji (pepper pods). Examples of Nasca pottery discovered in graves of the sandy, almost rainless coast of South Peru.



Left: Upon a black background birds are painted with flowers in their bills: fish are seen above and below. Centre: Finely modelled pot with bold crayfish design. Right: Free, naturalistic design of aji on cream ground. The clay is of a red colour, frequently covered with a cream-coloured slip upon which designs are painted in an astonishing range of colours still bright and pure.



Left: Cream ground, painted with centipede body and legs; below, row of human faces. Centre: Pot, with conventionalised centipede body round middle, and mice filling in pattern. Right: Typical Nasca beaker, conventional pattern upon cream slip. Nasca craftsmen used rich and soft hues: red, maroon, orange, brown, yellow, pink, pale blue and purple, besides white and black. There is no glazing, but some specimens are burnished; segments show beautifully thin and even clay.

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ARTISTIC POTTERY FROM THE CEMETERIES OF NASCA, SOUTH PERU



Three examples from the cemeteries of Isla de Sacrificios off Vera Cruz, where Totonac culture developed. On left: Reddish ware, covered with a pale-coloured slip, upon which banded designs are painted with a thick white pigment, slightly raised, and outlined with red. Centre: Bowl of similar ware and pigment, ornamented with a moulded bird at one side; bird's head movable on ball-and-socket device. Right: Bowl painted in buff, dull red, black, and white, with bands and symbols; note cross on left.



From Oaxaca, where Maya art extended. Footed vase of pale red paste, burnished; with formal designs.

Found at Puebla, midway between Vera Cruz and Mexico City. Deep dish, beautifully made and painted, with oddly conventionalised bird design on the bottom and panels of interior sides.

Found at Puebla. Footed vase or beaker; pale red ware beautifully ornamented with geometric patterns.



Three more examples from Isla de Sacrificios. Left: Tall beaker, with expanding foot; the elaborate design includes figure of the earth-monster; eye and jaws are seen on right just below topmost band of decoration. Centre: Reddish ware covered with pale slip, upon which are patterns painted in a thick white slip, giving a raised appearance. Right: Beaker with expanding foot, painted with stripes and band of conventional patterns at rim. These vases, like the Peruvian ware, knew not the potter's wheel nor the kiln, and were fired with wood fuel in the open air.

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FINE EXAMPLES OF THE POTTER'S ART FROM ANCIENT MEXICO

air rushing in as the water is poured out. The principle is exactly the same as in the modern whistling kettle, which can thus claim relationship with these more beautiful vessels so far removed in time and place.

The inhabitants of the southern continent were not alone among the American aborigines in producing beautiful vases by hand alone. The natives of Costa Rica and Panama were also skilful potters; the founders of a great culture in Guatemala which extended south and north into Honduras and the southern states of Mexico respectively (see pages 95-104), also made fine painted vases, though not so harmonious in shape. Further north, in Mexico, under the influence of the Toltec, a people strongly affected by the Maya civilisation, several "schools" of ceramic art grew up, the products of which are truly admirable, both technically and artistically. These are probably later than the Peruvian wares discussed above, dating as they do from about the eighth century of our era. But they are surprising in the elegance of their forms, their coloured slip decoration and, frequently, their resplendent burnish.

Especially remarkable are the bowls and footed beakers moulded by the Totonac, a people of Maya affinities inhabiting Vera Cruz, who at the time of the Spanish conquest were tributary to the invading Aztec. Many of their vases are so perfect in shape that it is difficult to believe that the Totonac potters had no knowledge of the wheel.

Nearer to Mexico city itself, in the state of Puebla, which had been occupied by a large proportion of the Toltec driven from the Mexican Valley by the Aztec, was another important pottery industry. The ware of Puebla is distinguished by the richness of its colouring, the favourite colours being a deep orange, red, and black. The vessels of such beauty of form and colour, produced by such primitive means, are not the least among the wonders of the past.



BEHISTUN, THE ROCK WHEREON DARIUS GRAVED THE STORY OF HIS CONQUESTS

The long, narrow, precipitous range that skirts the plain of Kermanshah on the east rises abruptly from the plain, and of it the Rock of the Behistun is the last peak, some 4,000 feet in height. At the foot of the rock bubble up a number of springs. Here, from time immemorial, caravans have halted to water their beasts, and here every army that has marched from Persia has slaked its thirst. The rock became a sacred place. The photograph indicates the difficulty of reaching the inscriptions seen in the centre.



By permission of the Trustees of the British Museum.

DARIUS THE GREAT IN THE HOUR OF VICTORY

Part of the sculpture on the Rock of Behistun (or Bisuton), on which Darius I. (548-485 B.C.) caused to be depicted a lasting record of his victory over those who disputed his right to the Persian throne. He is seen here, the third figure from the left, accompanied by two of his attendants, and with his left foot planted on the body of the usurper Gaumata, who claimed to be Smerdis, the brother of Cambyzes, and whose hands are raised in an attitude of vain entreaty to his conquerer.

THE GREAT MONUMENTS. IV
THE ROCK OF BEHISTUN
BY R. CAMPBELL THOMPSON, M.A., F.S.A.

THE ROCK OF BEHISTUN

BY R. CAMPBELL THOMPSON, M.A., F.S.A.

Author of "Semitic Magic," "A Pilgrim's Scrip," etc.

TWO of the most important events in the advancement of historical knowledge have been the discovery of the key to the Egyptian hieroglyphics on the Rosetta Stone and the deciphering of the cuneiform inscriptions on the Rock of Behistun. The former opened the door to the Wonderland of Egyptian history, and the latter brought daylight into the dark places of antiquity in the Middle East, revealing to the modern world the vanished civilisations of Mesopotamia in all the truth of contemporary record. The Rosetta Stone is the subject of another chapter of this work; here Mr. Campbell Thompson, who has investigated the Rock of Behistun on behalf of the British Museum, tells its story.—EDITOR.

TWO days' journey south-west from the ancient Summer Palace of Ecbatana, along the old caravan-road leading down to Babylon, a towering rock bastion nearly 4,000 feet high marks the end of one of the many great earth-folds of the crumpled Persian border. At its foot a spring wells out in a broad pool, and meanders across the rich, broad vale of the Karkhah, where the rains of spring are kindly and deck the plains with grass and the mountain crannies with flowers. Here, between scaur and well-head, where slow caravans have crawled the ages through, the well-worn track passes the sordid little village of Behistun. More than five hundred years B.C. the Great King, the Kings of Kings, the King of Persia, the King of the Provinces, Darius, took counsel where he should worthily grave the story of his reign. It must be set in a place which all should see, and yet be safe from the ravages of time and the malice of enemies; it must be written in several languages, that foreigners as well as Persians might know his glory; it must be shown in picture as well as in the written word, that those poor illiterates

who could not read might yet tremble at the great king's vengeance. His choice fell on this rock-face at Behistun, a hundred feet and more above the pool, in a gully masked by the last crags. In 516 B.C. his scribes composed the great history in three languages, and in Persian, Susian, and Babylonish cuneiform the engravers chiselled it in thirteen columns in the smooth vertical surface, and then, above the five tall columns of Persian writing, twelve feet high, his artists carved a delicate panel with a life-sized figure of the king in relief, receiving the submission of ten rebel upstarts who had challenged his right to the throne.

In course of time the Achæmenid kingdom went the way of other Oriental monarchies, leaving the dumb witness of ruined cities, sculptures, and above all, this great rock-picture, safeguarded by its height above the road, to testify to a power long dead. Legends grew fast round such a marvel, and travellers carried away strange tales of its rugged scarps, inscribed with unknown writings. Diodorus, a contemporary of Julius Cæsar, called it the "Bagistanon" mountain, the forerunner of its modern name, and told a wonderful tale how Semiramis, Queen of Babylon, ordered it to be carved, climbing the face of the mountain on a heap of pack saddles from her baggage train piled against the rock. The place was held sacred, said he; and to this day the Persian women come to hang their little votive scraps of rag on a bush beneath, as though it were some saint's tomb, in token of their dues to its mystery. Others who visited Persia in later times spoke of its wonder when they returned to Europe; many let their fancy run wild in their explanation of its meaning. Bembo in the seventeenth, Otter in the eighteenth century, tell of it; nay, Gardanne in 1809 avers that the picture is meant for the Twelve Apostles, and Ker Porter in 1827, hardly less fanciful, thinks it to be Shalmaneser and the captive Tribes of Israel.

In 1835 Henry Rawlinson, a young English soldier, twenty-five years old, was sent as Assistant to the Governor of Kermanshah. His attention was turned to the cuneiform inscriptions at Elwend near Ecbatana, and, as a soldier whose scholarly side ill brooked long periods of boredom, he set himself to decipher the strange unknown tongue in which they were written. In his "Memoir" he says that he was aware that a German pro-



DARIUS GIVES THANKS TO THE GOD AURAMAZDA FOR HIS VICTORIES

This drawing gives a clear impression of the sculptured panel on the famous Rock of Behistun, of which sectional photographs are given in the preceding pages. The bearded figure of Darius, the prostrate form of the Magian Gaumâta, and the figure of Skunkha, the Scythian, in his high-pointed cap, may here be studied as a whole, while above is seen the god, Auramazda, bearded, wearing a cylindrical headdress and horns, surmounted by a solar disk, with a small double disk in the centre, from which light rays project. The right hand of the god is raised, showing the palm; in his left hand he holds a ring, on each wrist he has a bracelet, and he is arrayed in a plain robe with open, hanging sleeves, fastened round the waist by a girdle. Auramazda stands within a circle, from which issue flames or rays of light, and below him, on each side, is a flash of forked lightning.



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WHERE SCHOLARS CLIMBED TO READ THE STORY OF THE GREAT KING'S REIGN

This photograph gives a more comprehensive front view of the rock sculptures and inscriptions. On the overhanging rock is the Babylonian cuneiform; below it, and extending to the left, are the three Susian columns, with the scarped rock lower still; while to the left of the standing figure are seen the sculptured panel and first three columns of the Persian text, the remaining two being hidden by the rock face on the right of the photograph.

fessor, Grotefend, about the beginning of the century, had deciphered some of the names of the early sovereigns of the house of Achæmenes, but in his isolated position at Kermanshah he could neither obtain a copy of the German's alphabet, nor discover which were the inscriptions that he had used. Actually Grotefend had made out the names of Hystaspes, Darius, and Xerxes from two short inscriptions accurately copied by Niebuhr at Persepolis in 1765, subsequently discovering the name of Cyrus, and from these he was able to assign correct values to about a third of the old Persian cuneiform alphabet, which consists of between forty and fifty characters. Closely after his labours must be reckoned those of Professor Lassen, who had deciphered about six more characters by 1836, and the names Tychsen, Münter, Burnouf, Rask, Beer, Jacquet, and Saint Martin must be accorded full title to their share in the decipherment of the inscriptions.

None of the work of these scholars had as yet reached the young Englishman, who applied himself to the task of decipherment unaided. There was no Rosetta Stone to give the translation of the strange characters, nothing but the unyielding problem of unknown names. Unconsciously he followed the method which Grotefend had employed. He compared two inscriptions, in this case at Elwend, which had been set up side by side, and found that they were identically the same except in two short passages of a few characters each. But the *first* of these two groups in the first inscription coincided with the *second* group in the second inscription, and Rawlinson's genius suggested, first, that these groups must be the names of kings concerned in setting up the inscriptions, and second, if so, the first name in the first inscription must represent the father of the king who set up the second. He was right. He took the names of the three most famous Persian kings in history, Hystaspes, Darius, and Xerxes, applied them to his theory, and found that the values for the characters which their names provided stood the test wherever the same characters reappeared in the names. The threshold was crossed.

But although Rawlinson, as well as foreign scholars, had so brilliantly deciphered the value of some of the characters, the names of some of the kings, and even of countries mentioned in

the text, the meaning of the inscriptions and the language in which they were couched were still a sealed book.

The Englishman had long been attracted by the problem of the Behistun inscription, and during his sojourn in Persia he set himself to unravel its meaning. By the end of 1837 he had so far overcome the difficulties involved in scaling the rock-face and copying the cuneiform text, that he had completed a version of about half of the Persian text, and in this year he forwarded to the Royal Asiatic Society, which has always shown a deep appreciation of scholarship of this nature, a translation of the two first paragraphs of the Behistun inscription, recording the titles and genealogy of Darius. Unfortunately he was compelled to break into his studies by his being transferred from "the lettered seclusion of Bagdad to fill a responsible and laborious office in Afghanistan," but 1843 again found him in the City of the Caliphs, eager to continue his labours. For many years past he had applied himself to Zend, the oldest Persian dialect then known, and it was his application of this language to the Persian cuneiform inscriptions which brought about his extraordinary exploit of translating the whole of the Persian inscription of Behistun for the first time. His decipherment of the characters which composed the proper names allowed him first to transliterate the inscription and so know how the words sounded, and his genius for languages then led him to their correct affinities with other dialects. His "Memoir," giving a complete translation with notes, was published in 1846.

Lassen, however, must not be forgotten in according the due meed of praise to the pioneers of translation as well as decipherment, for he, too (independently, but simultaneously with Rawlinson), applied himself to the Persepolitan inscriptions with definitely satisfactory results, publishing his rendering of them in 1844.

Rawlinson was not content only with the Persian part of the inscription. In 1844 he once more, this time with two companions, climbed the rock, crossed the chasm between the Persian and Susian columns, and copied the Susian version. Again in 1847 he hoped to attack the Babylonian version, which is cut on two faces of a ponderous overhanging boulder above the sheer face of the Susian columns. To this he did not himself climb,



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THE GREAT TRIUMPH OF THE PERSIAN KING DEPICTED ON THE ROCK OF BEHISTUN

View of the greater part of the panel, 10 feet high and some 18 feet in breadth, showing Darius triumphing over the ten rebel upstarts who had defied him. Height of the figures: Darius, second from the left, 5 feet 8 inches; of the two attendants (only one of whom is shown), 4 feet 10 inches; of each prisoner, 3 feet 10 inches. The king has his right hand raised towards the god Auramazda (3 feet 9 inches high, by 4 feet 2 inches wide), who appears amid rays of light and lightning. In his left hand Darius grasps a bow. The nine rebel leaders, apart from Gaumâta, are roped together, and their hands are tied behind their backs. Below the panel five tall columns of Persian writing tell the story of the vengeance of the great king.



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CROWNED HEAD OF KING DARIUS

Enlarged photograph of the head and torso of King Darius. The features are obviously different from the Assyrian type but their general treatment and the dressing of the beard follow the canons inherited by the Persians from their predecessors, the rendering of the eye, however, being more natural.



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MASSED COLUMNS OF THE PERSIAN INSCRIPTIONS AT BEHISTUN

Darius caused the inscriptions on the Rock of Behistun to be carved in three languages. The five columns of the Persian text are seen on the right of the photograph. They vary in height from 5 feet 8 inches to 12 feet 1½ inches, and in width from 5 feet to 6 feet 1¾ inches.

but found a Kurdish boy who scaled the height from a flank, and in a swinging seat took squeezes under Rawlinson's direction.

With the Persian version now thoroughly understood, it was only a matter of time to elucidate the Susian and the Babylonian. The former yielded to the energy of Hinks, Westergaard, de Sauley, and particularly Norris; the latter to Rawlinson, Hincks, Oppert and Fox Talbot, who showed that the Babylonian was a Semitic language allied to Hebrew. The great problem of cuneiform had been solved.

Subsequently Professor Williams Jackson in 1903 visited the inscription, and, climbing to the Persian ledge, re-examined the lower part of this text. But by this time the squeezes which Rawlinson had made of the inscription and stored in the British Museum were decaying, and particularly the Babylonian version, read thus from squeezes, was probably capable of considerable improvement. It was obvious that any advance in our knowledge of this text, Persian, Susian and Babylonian, must be made by a collation of the Rock itself, and in 1904 the Trustees of the British Museum decided to send an expedition down to the Rock.

To this end Dr. L. W. King, and I as his junior, left Mosul in April, 1904, for Behistun. On our arrival there our first view of the inscription suggested that it must first be attacked from behind, and a spot was found two hundred feet above the sculpture, whence we could shake down two ropes until they reached its face. Then, after scaling the rock from below to the ledge of the base of the inscription, we were able to tie two cradles to these ropes, adding lengths of stouter rope wherewith we might climb into them.

The first part of the ascent from below was an almost perpendicular scramble of 12 feet or so, with handholds on tufts of grass, and footholds on soil or projecting stone; thence upward, in a gentle ascent to the right, the line of approach lay along the smooth rock, broken only by one gap with a sheer long drop to earth beneath. From here the way up was comparatively easy to the right-hand side of the Persian inscription. After we had evolved this route together, happily without native help, pegs and a rope-rail were fastened along it, making the daily climb a trivial matter.

Rawlinson, "Archæologia," xxxiv., 1853, 74, says: "Notwithstanding that a French antiquarian commission in Persia described it a few years back to be impossible to copy the Behistun inscriptions, I certainly do not consider it any great feat in climbing to ascend to the spot where the inscriptions occur. When I was living at Kermanshah fifteen years ago, and was somewhat more active than I am at present, I used frequently to scale the rock three or four times a day without the aid of a rope or ladder: without any assistance, in fact, whatever. During my late visits I have found it more convenient to ascend and descend by the help of ropes where the track lies up a precipitate cleft, and to throw a plank over those chasms where a false step in leaping across would probably be fatal." The Babylonian overhang, however, he did not copy himself but, as is mentioned above, sent a Kurdish boy up to take squeezes. "The craigsmen of the place . . . declared the particular block inscribed with the Babylonian legend to be unapproachable."

Beneath the fifth Persian column was a ledge of some six feet which narrowed almost to nothing near the first column, beyond which, on a salient face, were the three columns of the Susian, of the same height as the Persian, but across a chasm, of which Rawlinson had spoken. In front of these, too, was a ledge, which we found could be easily reached by swinging across on our ropes. The Babylonian, written on an overhanging boulder twelve feet above this, was a more difficult problem. From a vantage-point high above the inscription our men could raise or lower the cradles to the right height on the face of the inscription, or to the sculpture above the Persian columns; after they had made fast the ends above, we climbed into the cradles and thus sat, collating and photographing the inscriptions and sculptures for the next sixteen days. We were able to reach and collate the Babylonian overhang by swinging across to the Susian ledge and then climbing the ropes to a ledge above the Susian, and thence, again sitting in the cradles, working our way round the inscribed face of the boulder by hands or knees. The great sculpture was photographed with a hand camera either from here at an angle, or piecemeal direct at five feet distance by pushing the cradles away from the rock with our

feet. The results were published by the Trustees in "The Inscription of Darius the Great at Behistun," where full details and photographs will be found.

Throughout, what was most striking was the great accuracy of Rawlinson's copies. The five Persian columns alone contain more than fifteen thousand characters, and his work showed surprisingly few errors, considering the difficulties of every kind with which he had to contend.

The inscription itself tells the ancient glory of Persia at its zenith, before Darius had challenged the Greeks and had been defeated in 490 at Marathon. It begins with the genealogy of Darius traced direct to Achæmenes, and then refers to the reign of Cambyses, who had preceded Darius, the murder of Smerdis (the brother of Cambyses), and the revolt of the Persians during the absence of Cambyses on his campaign in Egypt. At this moment Gaumâta, the Magian, seizing his opportunity, declared himself to be Smerdis, the son of Cyrus, with a claim to the throne. Cambyses hastened homewards, but died on the way, and Gaumâta, as the Babylonian contract tablets show, held sway for a brief period.

It was Darius, the son of Hystaspes, who challenged the usurper, and, marching against him with a small force, slew him and took the throne. But revolts broke out in many of the provinces, and the first years of Darius were spent in subduing them. Nidintu-Bêl seized Babylon, claiming to be Nebuchadnezzar; Martiya headed a revolution in Susiana; in Media Phraortes gave himself out to be Khshathritha, of the family of Cyaxares, and led another revolt. These were dealt with successfully, and the unfortunate pretenders are to be seen with several others, equally unsuccessful, on the sculptured panel above the inscription.

The king stands with his arm raised and his foot on Gaumâta; behind him are his generals or satraps. Before him, roped one to another, come the recalcitrant chiefs in the following order: Atrina, the first Susian pretender; Nidintu-Bêl, of Babylon; Fravartish (Phraortes), of Media; Martiza, the second Susian pretender; Citrantakhma, of Sagartia; Vahyazdâta, the second pseudo-Smerdis; Arakha, the second Babylonian pretender; Frâda, of Margiana; and subsequently, at the cost of

destroying part of the Susian inscription, Skunkha, the Scythian, in his high peaked hat was added.

It is a nice point whether the inscription is a finer memorial to the Persian, Darius, who wrote it, or to the Englishman, Rawlinson, who deciphered it.

THE WONDER CITIES. XI
THE ALEXANDRIA OF ANTONY AND
CLEOPATRA

BY ARTHUR WEIGALL

THE ALEXANDRIA OF ANTONY AND CLEOPATRA

BY ARTHUR WEIGALL

Author of "The Life and Times of Akhnaton," etc.

OF no wonder city of the past are the actual remains so scanty as in the case of ancient Alexandria. An ingenious archæological plan compiled about a quarter of a century ago has been shown by later research to have no practical value as a guide. The old site has been completely covered up by the modern city. Fortunately, the literary skill of our contributor, applied to a subject of which he is a past master, creates so vivid a picture of the vanished splendour of the famous city that the absence of pictorial documents is less noticeable here than it would otherwise have been.—EDITOR.

ALEXANDRIA was founded by Alexander the Great in 332 B.C., and its topographical position seems to have been chosen on account of its detachment from Egypt proper. The city was erected upon a strip of land having the Mediterranean on the one side and the Mareotic Lake on the other, and thus it was cut off from the hinterland far more effectively even than was Carthage by its semi-circle of hills.

Alexander had intended to make the city a purely Greek settlement, the port at which the Greeks should land their goods for distribution throughout Egypt, and whence the produce of the abundant Nile should be shipped to the north and west. He therefore selected a remote corner of the Delta for his site, with the plain intention of holding his city at once free of, and in dominion over, Egypt. And so precisely was the location suited to his purpose, that until this day Alexandria is in little more than name a city of the Egyptians.

The climate here is very different from that of the interior of the Delta, and bears no similarity to that of Upper Egypt, where the ancient Pharaohs lived. The summers are not ex-

cessively hot—indeed, many of the days are cool and temperate. The winter days are often cold and rainy, and while Thebes and the Pyramids bask in more or less continual sunshine, the city of Alexandria is lashed by intermittent rainstorms, and the salt sea wind buffets the pedestrians as it screams down the streets.

For our present purpose it will be best to describe the city at some definite period of its history, and since it is generally associated in our minds with the tragedy of Antony and Cleopatra, we may as well choose the year 35 B.C., when these two famous lovers were living in splendour in the palace of the Ptolemies.

The coast of Egypt rises so little above the level of the Mediterranean that the land cannot be seen by those approaching it from across the sea until but a few miles separate them from the surf which breaks upon the sand and rocks of that barren shore. The city, at this time, was largely hidden from view by the long, low island of Pharos, which lay in front of it. Two promontories of land projected from the coast opposite either end of the island, and these being lengthened by the building of breakwaters, the straits between Pharos Island and the mainland were converted into an excellent harbour, both it and the main part of the city being screened from the open sea. There was one tremendous landmark, which served to direct all vessels to their destination—namely, the far-famed Pharos lighthouse, the subject of a separate article in this work (see page 419). Standing upon the east end of the island, it overshadowed the main entrance to the port.

The harbour was divided into two almost equal parts by a great embankment, known as the Heptastadium, which joined the city to the island. This was cut at either end by a passage, or waterway, leading from the one harbour to the other; but these two passages were bridged over, and thus a clear causeway was formed, seven stadia, or 1,400 yards, in length. To the west of this embankment lay the harbour of Eunostos, or the Happy Return, which was entered from behind the western extremity of Pharos Island; while to the east of the embankment lay the Great Harbour, the entrance to which passed between the enormous lighthouse and the Diabathra, or breakwater, built out from the promontory known as Lochias. This entrance was

dangerous, owing to the narrowness of the fairway and to the presence of rocks, against which the rolling waves of the Mediterranean, driven by the prevalent winds of the north, beat with almost continuous violence.

A vessel entering the port of Alexandria from this side was steered towards the great lighthouse, around the foot of which the waves leapt and broke in showers of white foam. Skirting the dark rocks at the base of this marble wonder, the vessel slipped through the passage into the still entrance of the harbour, leaving the breakwater on the left hand. Here, on a windless day, one might look down to the sand and the rocks at the bottom of the sea, so clear and transparent was the water and so able to be penetrated by the strong light of the sun. Seaweed of unaccustomed hues covered the sunken rocks over which the vessels floated, and anemones, like great flowers, could be seen swaying in the gentle motion of the under-currents.

Passing on into the deeper water of the harbour, in which the sleek dolphins rose and dived in rhythmic succession, the traveller saw before him such an array of palaces and public buildings as could be found nowhere else in the world. There stood, on his left hand, the Royal Palace, which was spread over the Lochias Promontory and extended round towards the west. Here, beside a little island known as Antirrhodos, itself the site of a royal pavilion, lay the Royal Harbour, where flights of broad steps descended into the azure water, which at this point was so deep that the largest galleys might moor against the quays.

Along the edge of the mainland, overlooking the Great Harbour, stood a series of magnificent buildings which must have deeply impressed all those who were approaching the city across the water. Here stood the imposing Museum, which was actually a part of another palace, and which formed a kind of institute for the study of the sciences, presided over by a priest appointed by the sovereign. The buildings seem to have consisted of a large hall wherein the professors took their meals; a series of arcades in which these men of learning walked and talked; a hall, or assembly-room, in which their lectures were held; and at the north end, close to the sea, the famous library, at this time containing, it is estimated, more than half a million scrolls.

In passing, the tragic end of this great collection of the wisdom of the ancients may be recorded. At the Mahomedan invasion in A.D. 641 the Caliph Omar ordered the scrolls to be burnt; for, he said, "if these books agree with the Koran they are superfluous and need not be preserved, and if they disagree, they are pernicious and ought to be destroyed." Thus, at the word of an ignorant fanatic, the accumulated learning of the world was destroyed.

On rising ground between the Museum and the Lochias Promontory stood the theatre, wherein those who occupied the higher seats might look beyond the stage to the island of Antirrhodos, behind which the incoming galleys rode upon the blue waters in the shadow of Pharos. At the back of the theatre, on still higher ground, the Paneum, or Temple of Pan, had been erected. This is described by Strabo as "an artificial mound of the shape of a fir-cone, resembling a pile of rock, to the top of which there is an ascent by a spiral path, from whose summit may be seen the whole city lying all around and beneath it." To the west of this mound stood the Gymnasium, a superb building, the porticoes of which alone exceeded a stadium, or 200 yards, in length. The Courts of Justice, surrounded by groves and gardens, adjoined the Gymnasium. Close to the harbour, to the west of the Theatre, was the Agora (or Forum), and in front of it, on the quay, stood a Temple of Neptune. To the west of this, near the Museum, there was an enclosure called Sema, in which stood the tombs of the Ptolemaic Kings of Egypt, built around the famous Mausoleum wherein the bones of Alexander the Great rested in a sarcophagus of alabaster.

These buildings, all able to be seen from the harbour, formed the quarter of the city known as the Regia, Brucheion, or Royal Area. Here the white stone statues and monuments, the trees and brilliant flower-gardens, the flights of marble steps passing down to the sea, the broad streets and public places must have formed a scene of magnificence not surpassed at that time in the whole world. Nor would the traveller, upon stepping ashore from his vessel, be disappointed in his expectations as he roamed at pleasure through the streets of the town.

Passing through the Agora, he would come out upon the great thoroughfare, more than three miles long, which cut right

through the length of the city in a straight line, from the Gate of the Necropolis, at the western end, behind the Harbour of the Happy Return, to the Gate of Canopus, at the eastern extremity, some distance behind the Lochias Promontory. This magnificent boulevard, known as the Street of Canopus, or the Meson Pedion, was flanked on either side by colonnades, and was one hundred feet in breadth. On its north side would be seen the Museum, the Sema, the palaces, and the gardens; on the south side the Gymnasium, with its long porticoes, the Paneum, towering up against the sky, and numerous temples and public places.

Were the traveller to walk eastwards along this street he would pass through the Jewish quarter, adorned by many synagogues and national buildings, through the Gate of Canopus, built in the city walls, and so out on to open ground, where stood the Hippodromos, or Racecourse, and several public buildings. Here the sun-baked soil was sandy, the rocks were glaring white, and but little turf was to be seen. A few palms, bent southward by the sea wind, and here and there a cluster of acacias, gave shade to pedestrians, while between the road and the sea the Grove of Nemesis offered a pleasant foreground to the sandy beach and the blue expanse of the Mediterranean beyond. Near by stood the little settlement of Eleusis, which was given over to festivities and merrymaking. Here there were several restaurants and houses of entertainment, which are said to have commanded beautiful views; but so noisy was the fun supplied, and so dissolute the manners of those who frequented the place, that better-class Alexandrians were inclined to avoid it.

About three miles from Alexandria stood the suburb of Nicopolis, where numerous villas, themselves "not less than a city," says Strabo, writing a few years later, had been erected along the sea-front, and the sands in summer-time were crowded with bathers. Farther eastwards, the continuation of the Street of Canopus passed on to the town of that name and Egypt proper.

Returning within the city walls and walking westwards along the Street of Canopus, the visitor would pass once more through the Regia, and thence through the Egyptian quarter, known as Rhakotis, to the western boundary. This quarter,

being immediately behind the commercial harbour, was partly occupied by warehouses and ships' offices, and was always a very busy district of the town. Here there was an inner harbour, called Cibotos, or the Ark, where there were extensive docks; and from this a canal passed, under the Street of Canopus, to the lake at the back of the city. On a rocky hill behind the Rhakotis quarter stood the magnificent Serapeum, or Temple of Serapis, which was approached by a broad street running at right angles to the Street of Canopus, which it bisected at a point not far west of the Museum, being a continuation of the Heptastadium.

The temple is said to have been surpassed in grandeur by no other building in the world except the Capitol at Rome; and, standing as it did at a considerable elevation, it must have towered above the hubbub and the denser atmosphere of the streets and houses at its foot, as though to receive the purification of the untainted wind of the sea. Behind the temple, on the open rocky ground outside the city walls, stood the Stadium, and away towards the west the Necropolis was spread out, with its numerous gardens and mausoleums. Still farther westward there were numerous villas and gardens, and it may be that the wonderful flowers which at the present day grow wild upon this ground are actually the descendants of those introduced and cultivated by the Greeks of the days of Cleopatra.

Along the entire length of the back walls of the city lay the Lake of Mareotis, which cut off Alexandria from the Egyptian Delta, and across this stretch of water vast numbers of vessels brought the produce of Egypt to the capital. The lake harbour and docks were built around an inlet which penetrated some considerable distance into the heart of the city not far to the east of the Paneum, and from them a great colonnaded thoroughfare, as wide as the Street of Canopus, which it crossed at right angles, passed through the city to the Great Harbour, being terminated at the south end by the Gate of the Sun and at the north end by the Gate of the Moon.

These lake docks are said to have been richer and more important even than the maritime docks on the opposite side of the town; for over the lake the traffic of vessels coming by river and canal from all parts of Egypt was always greater than the shipping across the Mediterranean. The shores of this inland



"POMPEY'S PILLAR" AT ALEXANDRIA

This monument, popularly known as Pompey's Pillar, stands on the site of the Serapeum, and is one of the few remains of ancient Alexandria. It is a great monolithic shaft, and appears to be an Egyptian obelisk rounded and fitted with a Corinthian capital; beneath it are substructures of an earlier age, and underground chambers connected with the mysteries of Serapis.



Reconstruction drawing by Mr. A. Forestier from M. Gaston Jondet's "Les Ports Submergés de l'Ancienne Ile de Pharos."

IMAGINATIVE VIEW OF THE ISLAND AND LIGHTHOUSE OF PHAROS WITH THE TOWN—

For an idea of Alexandria and the wonders that graced it we must rely rather on the accounts of contemporary writers than on any existing remains. For the zeal of Mahomedan fanaticism dictated the destruction of most of its monuments, ignorant greed brought about the downfall of the lighthouse, the Heptastadium has silted up till it is no more than an isthmus, and what little may be left the city covers. "Pompey's Pillar" alone still stands bravely, and other discoveries relate rather to an age long before the days of Alexander. That pillar, for instance,



—AND THE CROWDED HARBOURS OF ALEXANDRIA BEYOND, BASED ON RECENT SURVEYS

stands upon substructures which belonged to a temple of the time of Seti I. (nineteenth dynasty); and soundings undertaken recently by M. Gaston Jondet have revealed great harbour-works to the west of the Island of Pharos, which may date from the same period. In this drawing they are indicated to the right, while the great lighthouse is on the left; behind the island are the two harbours of classical Alexandria separated by the Heptastadium, and then the teeming town itself.

sea were exuberantly fertile. A certain amount of papyrus grew at the edges of the lake, considerable stretches of water being covered by the densely growing reeds.

The Alexandrians were wont to use the plantations for their picnics, penetrating in small boats into the thickest part of the reeds, where they were overshadowed by the leaves, which, also, they used as dishes and drinking-vessels. Extensive vineyards and fruit-gardens flourished at the edge of the water, and there are said to have been eight islands which rose from the placid surface of the lake and were covered by luxuriant gardens.

Strabo tells us that Alexandria contained extremely beautiful public parks and grounds, and abounded with magnificent buildings of all kinds. The whole city was intersected by roads wide enough for the passage of chariots; and, as has been said, the three main streets, those leading to the Gate of Canopus, to the Serapeum, and to the Lake Harbour, were particularly noteworthy, both for their breadth and length. Indeed, in the Fifteenth Idyll of Theocritus, one of the characters complains most bitterly of the excessive length of the Alexandrian streets. The kings of the Ptolemaic dynasty for nearly three centuries had expended vast sums in the beautification of their capital, and at the period with which we are now dealing it had become the rival of Rome in magnificence and luxury.

The novelist, Achilles Tatius, writing some centuries later, when many of the Ptolemaic edifices had been replaced by Roman constructions, perhaps of less merit, cried, as he beheld the city: "We are vanquished, mine eyes!" And there is every reason to suppose that his words were no unlicensed exaggeration. In the brilliant sunshine of the majority of Egyptian days the stately palaces, temples, and public buildings, which reflected themselves in the waters of the harbour, or cast their shadows across the magnificent Street of Canopus, must have dazzled the eyes of the spectator and brought wonder into his heart.

The inhabitants of the city were not altogether worthy of their splendid home. In modern times the people of Alexandria exhibit much the same conglomeration of nationalities as they did in ancient days; but the distinguishing line between Egyptians and Europeans is now more sharply defined than it was in

ancient times, owing to the fact that the former are mostly Mahomedans and the latter Christians, no marriage being permitted between them. In Ptolemaic times only the Jews of Alexandria stood outside the circle of international marriages, which was gradually forming the people of the city into a single type; for they alone practised that conventional exclusiveness which indicated a strong religious conviction. The Greek element, always predominant in the city, was mainly Macedonian; but in the period we are now studying so many intermarriages with Egyptians had taken place that in the case of numerous families the stock was much mixed.

There must have been, of course, a certain number of aristocratic houses, descended from the Macedonian soldiers and officials who had come to Egypt with Alexander the Great and the first Ptolemy, whose blood had been kept pure, and we hear of such persons boasting of their nationality, though the ruin of their fatherland and its subservience to Rome had left them little of which to be proud. In like manner there must have been many pure Egyptian families, no less proud of their nationality than were the Macedonians. The majority of educated people could now speak both the Greek and Egyptian tongues, and all official decrees and proclamations were published in both languages. Many Greeks assumed Egyptian names in addition to their own, and it is probable that there were at this date Egyptians who, in like manner, adopted Greek names.

Besides Greeks and Egyptians, there were numerous Italians, Cretans, Phœnicians, Cilicians, Cypriotes, Persians, Syrians, Armenians, Arabs, and persons of other nationalities, who had, to some extent, intermarried with Alexandrian families, thus producing a stock which must have been much like that to be found in the city at the present day and now termed Levantine. Some of these had come to Alexandria originally as respectable merchants and traders; others were sailors and, indeed, pirates; yet others were escaped slaves, outlaws, criminals and debtors, who were admitted on condition that they served in the army; while not a few were soldiers of fortune enrolled in the forces of Egypt.

There was a standing army of these mercenaries in Alexandria, and Polybius, writing of the days of Cleopatra's great-

grandfather, Ptolemy IX., speaks of them as being oppressive and dissolute, desiring to rule rather than to obey. A further introduction of foreign blood was due to the presence of the Gabinian Army of Occupation, the members of which had settled down in Alexandria and had married Alexandrian women. These soldiers were largely drawn from Germany and Gaul, and though there had not yet been time in the days of Antony and Cleopatra for them to do more than add a horde of half-caste children to the medley, their own presence in the city contributed strikingly to the cosmopolitan character of the streets. This barbaric force, with its Roman officers, must have been in constant rivalry with the so-called Macedonian Household Troops which guarded the palace; but in Cleopatra's day the latter force had already been freely recruited from all the riff-raff of the world, and was in no way a match for the northerners.

The aristocracy of Alexandria probably consisted of the cosmopolitan officers of the mercenaries and Household Troops, the Roman officers of the Gabinian Army, the Macedonian courtiers, the Greek and Egyptian officials, and numerous families of wealthy Europeans, Syrians, Jews, and Egyptians. The professors and scholars of the Museum constituted a class of their own, much patronised by the Court, but probably not often accepted by the aristocracy of the city for any other reason than that of their learning. The mob was mainly composed of Greeks of mixed breed, together with a large number of Egyptians of somewhat impure stock; and a more noisy, turbulent, and excitable crowd could not be found in all the world, not even in riotous Rome.

In the words of Dio Chrysostom, "the whole town lived for excitement, and when the manifestation of Apis (the sacred bull) took place, all Alexandria went fairly mad with musical entertainments and horse-races. When doing their ordinary work they were apparently sane, but the instant they entered the theatre or the racecourse they appeared as if possessed by some intoxicating drug, so that they no longer knew nor cared what they said or did. And this was the case even with women and children, so that when the show was over, and the first madness past, all the streets and byways were seething with excitement for days, like the swell after a storm."

The impudent wit of the Græco-Egyptian dandy was proverbial, and must always have constituted a cause of offence to those whose public positions laid them open to attack. No sooner did a statesman assume office, or a king come to the throne, than he was given some scurrilous nickname by the wags of the city, which stuck to him throughout the remainder of his life. All forms of ridicule appealed to them, and many are the tales told in this regard.

Thus, when Agrippa passed through the city on his way to his insecure throne, these young Alexandrians dressed up an unfortunate madman whom they found in the streets, put a paper crown upon his head and a reed in his hand, and led him through the town, hailing him as King of the Jews; and this in spite of the fact that Agrippa was the friend of Caligula, their Emperor. Against Vespasian they told with delight the story of how he had bothered one of his friends for the payment of a trifling loan of six obols, and somebody made up a song in which the fact was recorded. They ridiculed Caracalla in the same manner, laughing at him for dressing himself like Alexander the Great, although his stature was below the average; but in this case they had not reckoned with their man, whose revenge upon them was an act no less frightful than the total extermination of all the well-to-do young men of the city, they being collected together under a false pretence and butchered in cold blood.

These Alexandrians were famous for the witty and scathing songs and epigrams which they composed upon topical subjects, and against their rulers. Such ditties were carried from Egypt to Rome, and were sung in the Italian capital. The Emperor Hadrian speaks of the Alexandrians as being spiteful—and, no doubt, a great deal of their vaunted wit had that character. The conceit of these smart young men was very noticeable, and is frequently referred to by early writers. They appear to have been much devoted to the study of their personal appearance, and, if one may judge by the habits of the upper-class Egyptians and Levantines of present-day Alexandria, many of them must have been intolerable fops. The luxury of their houses was probably greater than that in Roman life at this date, and they had studied the culinary arts in an objectionably thorough manner.

Dio Chrysostom says the Alexandrians of his day thought

of little else but food and horse-racing. Both Greeks and Egyptians in Alexandria had the reputation of being fickle and easily influenced by the moment's emotion. They had few traditions, no feelings of patriotism, and not much political interest. They did not make any study of themselves, nor write histories of their city; they lived for the moment, and if the Government of the hour were distasteful to them, they revolted against it with startling rapidity. The city was constantly being disturbed by rioting, and there was no great regard for human life.

The population of Alexandria is said to have been about 300,000 during the later years of the Ptolemaic dynasty, which was not much less than that of Rome before the Civil War, and twice the Roman number after that sanguinary struggle. In spite of its reputation for frivolity, it was largely a business city, and a goodly portion of its citizens were animated by a lively commercial spirit, which quite outclassed that of the Italian capital in enterprise and bustle. This, of course, was a Greek and not an Egyptian characteristic, for the Egyptians are notoriously unenterprising and conservative in their methods, while the Greeks, to this day, are admirable business men.

Alexandria was the most important corn-market of the world, and for this reason was always envied by Rome. Incidentally, I may remark that proportionately far more corn was consumed in Cleopatra's time than in our own, and Cæsar speaks of the endurance of his soldiers in submitting to eating meat owing to the scarcity of corn. The city was also engaged in many other forms of commerce, and in the reign of Cleopatra it was recognised as the greatest trading centre in the world. Here East and West met in the busy market-places, and at the time with which we are dealing the eyes of all men were beginning to be turned to this city as being the terminus of the new trade-route to India, along which such rich merchandise was already being conveyed.

It was also the chief seat of Greek learning, and regarded itself as the leading authority on matters of art—a point which must have been open to dispute. The famous "Alexandrian School," celebrated for its scientific work and its poetry, had existed for more than two hundred years, and was now in its decline, though it still attempted to continue the old Hellenic

culture; but the School of Philosophy, which succeeded it in celebrity, was just beginning to come into prominence. Thus the eyes of all merchants, scientists, men of letters, scholars, and statesmen were turned to Alexandria in the days when Antony and Cleopatra lived and loved in their palace on the Lochias headland.

THE WONDER CITIES. XII
THE LOST CITIES OF CEYLON

BY G. E. MITTON

THE LOST CITIES OF CEYLON

BY G. E. MITTON

Author of "The Lost Cities of Ceylon," etc.

THIS is the first of three articles on the wonders of Ceylon, written for this work by a leading authority on the antiquities of the island. The second contribution describes the Palace on the Rock of Sigiri, built for King Kasyapa. The third chapter deals with the dagobas, relic shrines, or commemorative monuments, for which Anuradhapura and the hill of Mihintale are famous.—EDITOR.

SCATTERED throughout the north-central province of Ceylon are ruins of great architectural beauty. The greater part are found in the areas occupied by the ancient capitals of the Sinhalese, Anuradhapura and Polonnaruwa, distant from one another about sixty miles. We have, most fortunately, a complete history of these cities and the people who occupied them, a great deal of it written contemporaneously. This is found in one of the most wonderful historical chronicles in the world, the Mahawansa, where the minutest details of the reigns of the ancient kings are given. This was only rendered accessible in the middle of the nineteenth century by the scholarly work of a member of the Ceylon Civil Service, George Turnour, later supplemented by that of a native of Ceylon, L. C. Wijesinha, who completed the translation.

From the chronicle we learn that the city of Anuradhapura was founded about 437 B.C. The dates of the individual kings are arrived at by adding up the number of years attributed to each, and thus working backwards through time. More recently Mr. Wickremasinghe has revised these dates by comparison with inscriptions on stone which have survived. The city reached the zenith of its glory in the reign of the hero-king, Dutugemunu,

who, in 101 B.C., conquered a Tamil usurper who had occupied the throne for forty-four years, and established himself in the place of his fathers.

It is to Dutugemunu that some of the proudest remaining monuments in stone and brick are due. The Mahawansa tells us of the successive kings, of their numerous fights with hordes of Tamils, who came over on raiding parties from India, and generally succeeded in carrying loot back with them; it tells of the monuments raised, of works of merit constructed in the way of tanks, as the huge lakes for water storage are called, and of the personal history and characters of the kings and their families. The Sinhalese were converted to Buddhism before Dutugemunu's time, in the reign of King Tissa (247 B.C.), and their temples were all Buddhistic.

In the eighth century A.D., after desperate struggles, many reverses, and some successes, the unequal contest was given up, and Anuradhapura was abandoned as the royal city, because of the Tamils, who, in the picturesque language of the Mahawansa, were "like unto demons who suck up blood, and took to themselves all the substance that was therein."

The most notable king at Polonnaruwa was Parakrama I., who was contemporary with our Henry II., of England, and showed not only soldierly qualities, but marvellous wisdom and advanced ideas. About the end of the thirteenth century, Polonnaruwa also became uninhabitable, because of the Tamils, and the later capital was at Kandy in the middle of the island.

It is in these two so-called Lost Cities of Ceylon, which lay for ages hid in the jungle, known only by tradition, that we find the most beautiful and singular conceptions wrought in granite, in many cases as sharp in outline as the day they were done—anything up to two thousand years ago.

A reflection inevitably aroused by an investigation of these works of antiquity, is the absence of anything like artistic capability in the present-day descendants of the men who conceived and executed them. We find the same thing in almost any country which preserves similar relics. The race which possessed lofty ideas and artistic power, which had force and skill to embody its ideas in permanent form, is represented to-day by people wholly without these qualities.



PLANTED IN THE THIRD CENTURY B.C.: THE OLDEST HISTORIC TREE IN THE WORLD

The ancient bo-tree has made Anuradhapura a sacred as well as a royal city. This, the oldest historical tree in the world, was planted from a branch of the bo-tree under which the Buddha sat when he received revelation. It was brought from India by the sister of the apostle Mahinda, in 288 B.C. For over two thousand years the tree has been tended by a company of monks, who watered it with milk during one terrible drought. Now it is guarded by terraces and gates.



Photo by F. Dearville Walker.

BEAUTIFULLY CARVED STEPS TRODDEN FOR CENTURIES BY MILLIONS OF DEVOTEES

The "King's Palace" moonstone at Anuradhapura. It outshines all others in the city, and is decorated with thirteen animals instead of the usual nine. The surface shines like marble, and the delicacy of the work is unequalled. Once the building to which it is attached was called the "King's Palace" under a mistaken notion. It is now believed to have been merely a monastery like the rest, but of a very superior kind. It was probably that of exceptional splendour built in the reign of Mahinda, A.D. 838-858.



Photo by Walter Towgood.

TEMPLE OF THE SACRED TOOTH AT POLONNARUWA, CEYLON

Wherever the king reigned there must be the Sacred Tooth, an emblem of royalty invested with tremendous significance. The temple erected to receive the relic was in various forms. That at Polonnaruwa, called the Wata-dagé, is the most bizarre conception. The building is formed by successive terraces rising to a circular wall of brick. There are entrances at each of the cardinal points, with steps, guardstones, moonstones, and makara balustrade. There are pillars on the outer terraces, and originally four sedent Buddhas faced the entrances, of which one is shown.

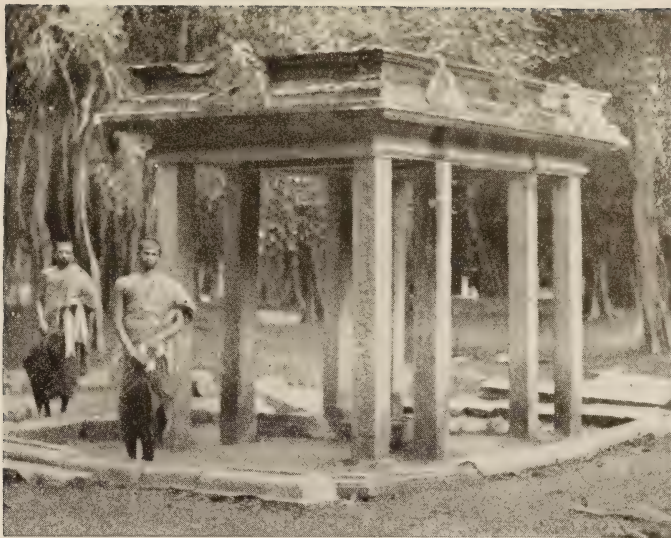


Photo by F. Deaville Walker.

"PRINCE MAHINDA'S PREACHING HALL"

To-day well-kept lawns and fine carriage roads give to Anuradhapura a beautiful park-like appearance. This graceful pavilion has been carefully rebuilt. Tradition declares it to be the preaching hall of the royal missionary Mahinda, sent by his father, Asoka, to introduce Buddhism into Ceylon. The two monks are pilgrims.



MOONSTONE OF TEMPLE OF THE SACRED TOOTH

On these carved stones elephant, horse, lion, and bullock chase each other, and are always found in this order in Anuradhapura. They may have had some symbolical connexion with the cardinal points. On the inside is a semi-circle of sacred geese carrying lotus buds in their beaks. The carving now, 1500-2000 years later, is as fresh as the day it was done.



Photo by M. H. Harland.

FAVOURITE DEVICE OF ANCIENT BUDDHIST ART

Among the guard-stones at Anuradhapura are many representing the Naga or multi-headed cobra. This is either a remnant of tree and serpent worship, or a tribute to the cobra which sheltered the Buddha in his meditation. The Naga in this photograph has seven heads, with the hoods spread. The number of heads varies, nine being the maximum.



BALUSTRADE OF AN ANCIENT STAIRCASE AT ANURADHAPURA

This is a typical example of the wing of a balustrade at the entrance to a sacred building. The Sinhalese derive their national name from Sinha, a lion. But there are no lions in Ceylon, and the beast they have evolved is peculiar to themselves. The creature above the lion is frankly mythical, a cross between a dragon and a crocodile.

The Lost Cities of Ceylon cannot be compared, either in size or extent, with the vast remains existing in Cambodia, but in a comparatively small space they include more suggestive problems, more features peculiar to themselves, than are to be found in the same area anywhere else in the world. The moonstones alone, peculiar to them—not to be confounded with the milky-blue jewels also found in the island, and somewhat unfortunately called by the same name—are enough to draw lovers of beauty from all quarters of the globe. Being hand wrought and executed presumably by different artists, the stones differ from each other, but certain details are common to all. They are invariably semicircular, and are placed at the foot of flights of steps leading up to viharas (temples) or dagobas.

As the city of Anuradhapura was established in the fifth century B.C., and was the seat of government with some lapses for about thirteen centuries, it may be gathered that these carved stones have been subjected to much usage. It seems clear too, that most of the best work was done before or about the beginning of the Christian Era, and therefore countless feet must have passed over the granite—fortunately for us they were feet that wore no boots.

The design is arranged in concentric rings, some of which are conventional, being graceful forms of intertwined lotus plants, but the most noticeable is that which runs outermost, except for a floral border. This consists of a strange procession of moving animals following one another from left to right. At Anuradhapura these beasts are usually the elephant, lion, horse, bullock, in this order, which are shown in repeated succession. On the ordinary-sized stones there are generally nine of them, so that the elephant begins and ends the series, but on two superb examples, one at a vihara on the Outer Circular Road, and one at the sacred bo-tree, there are thirteen animals. In the latter the lion is twice omitted, and the series is irregular, though begun and ended by the elephant, as it invariably is.

In some stones certain animals are better executed than in others, but in all the elephants are good, as might be expected, seeing that elephants are indigenous in the island. The horses are usually clumsy and the lions grotesque. In spite of the fact that the Sinhalese derive their racial name from a lion, it does not

appear that there were ever wild lions in Ceylon. The bullocks are generally very tolerable.

The significance of these four animals has not yet been fathomed, though it is imagined they may be connected with the four cardinal points. They are found on some Indian temples, and elsewhere in ancient eastern writings are mentioned in connexion with each other. The figures on the same stone are not mere replicas, and the comparison of the work on different stones is most fascinating.

Inside the animal ring, and divided from it by a floral ring, is a row of the hansa, or sacred goose, each one carrying a bit of lotus flower in its beak. Here again the artistic excellence of the design and execution varies greatly, and it is amusing to note that in some cases space has not been measured out, and the geese grow smaller to fit in at the end. On one stone, indeed, there is no room left for a full-sized goose at all, and the last one is depicted end-on, looking back over its shoulder. On a smaller stone at the entrance of the Tooth Temple, though there are the usual nine animals, there are fifteen geese jammed together, with their beaks resting on each other's wings, whereas on the larger stones there are only nine. At Polonnaruwa, the second capital, in its zenith about the twelfth century, fashion has changed, and the moonstones usually have a ring of very small geese outside a row of spirited and varying elephants, within which is again a row of horses.

Connected with these stones are the well-shaped and well-carved balustrades, also of granite, often in the form of a fabulous beast, known as a makara, whose scales and claws are worked with minute nicety; it embraces a panel, frequently having in low relief one of the amiable and eager lions as represented by the Sinhalese. At each side there may or may not stand a guardstone, on which some of the finest carving is wrought.

These guardstones are found not only at the entrance to viharas, but at the flights of steps leading to dagoba platforms and elsewhere, the most attractive form being that of a graceful figure, suggestive of Indian art, holding an orb and attended by a dwarf. The best and largest was found at what used to be called "The Elephant Stables," owing to the giant size of the granite columns on the platform, 2 feet square by 16 feet in



THE DALADA MALIGAWA: WHERE BUDDHA'S TOOTH RESTED FOR NINE HUNDRED YEARS

This temple housed the famous tooth brought from India by a Kalinga princess, A.D. 311. It is now one of the most precious possessions of the Buddhist hierarchy, and is kept in Kandy and carried in procession once a year. Some say the original tooth was destroyed by the Portuguese, and that the present one is a duplicate. It is, anyway, about two inches long and the thickness of a small finger. The curiously shaped capitals of this temple are supposed to represent teeth.



Photo by M. H. Harland.

CARVED PILLARS OF AN ANCIENT TEMPLE AT ANURADHAPURA

The ancient city of Anuradhapura was of vast size. The wall is said to have been 65 miles in extent, and one street leading from gate to gate was 16 miles long. The houses were probably of wood and have not survived. To-day the whole site is littered with ruins of stone and brick buildings, chiefly of a religious character. These graceful pillars mark the site of what was evidently an important edifice, probably a Buddhist vihara or temple, approached by the usual moonstone and steps.

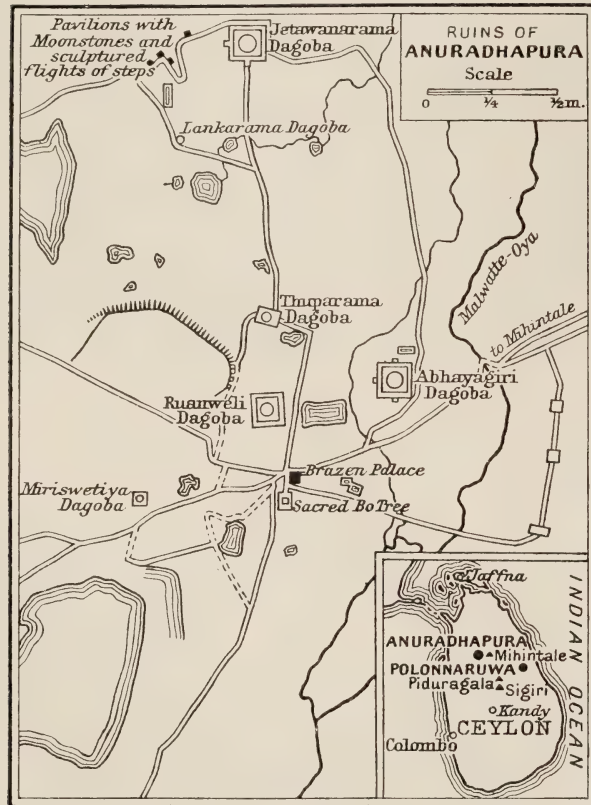




Photo by M. H. Harland.

THE THUPARAMA DAGOBA: SHRINE OF BUDDHA'S COLLAR-BONE AT ANURADHAPURA

This is the oldest Buddhist shrine in Ceylon, being erected by King Devanampiya Tissa about 247 B.C. It is composed of solid brickwork. Buried in the centre, probably in a golden casket, is a very sacred relic—the right collar-bone of the lord Buddha brought from North India by early missionaries of the faith. This dagoba stands upon a high platform of brickwork and is surrounded by tall, slender pillars, originally numbering 176. It was restored and much altered in 1842.



ALL THAT REMAINS TO-DAY OF THE GREAT BRAZEN PALACE AT ANURADHAPURA

The Loho-pasada, or Brazen Palace, is supposed to have been built before the beginning of the Christian era as the chief monastery for the monks of the city. It had at first nine storeys, the roofs, covered with brazen tiles which shone like gold in the burning sun. It was many times destroyed and rebuilt, but the 1,600 monoliths of granite still standing are supposed to be the original columns. One or two of these had been split, evidently to replace a few missing ones. In it was a throne made of ivory, with upon it the sun in gold, the moon in silver, the stars in pearls. Even the rice ladles were made of gold. The king paid the workmen by depositing money, clothing, honey, and butter at the four gates.



RUANWELI, THE MOST FAMOUS DAGOBA AT ANURADHAPURA

This mighty dagoba, Ruanweli, was one of the proudest works of the great warrior-king, Dutugemunu. It was still unfinished when he gazed at it with dying eyes in 77 B.C. It is composed of millions of bricks, with one tiny central chamber, where were deposited a collection of relics such as had never before been brought together. The dagoba is now only 178 feet in height, having lost about 100 feet. It is one of the Eight Sacred Places of the Buddhist community at Anuradhapura.



Photo by F. Deaville Walker.

ROYAL BATHING TANK OF ANCIENT ANURADHAPURA

Bathing tanks played a large part in the life of the people. There are many in and about the royal city. Two of these, known as the Kuttampokuna, or Twin Baths, are placed end to end, measuring about 220 feet in length and 51 feet in breadth. The smaller one of them is seen above. When discovered, it was in a very ruinous condition, but the right-hand side has been restored to show its former appearance. Note the huge blocks of stone.

height; it dates from the reign of Mahinda II. (A.D. 838-858), and is all on the largest scale. The door guardian was especially preserved in its delicacy of line by having lain face downwards on the earth for unknown generations, and thus escaping the heavy monsoon rains. It is 5 feet high and shaded by a carved canopy, an unusual feature. Some of these guardians take the form of dwarfs, hideous enough to frighten off any undesirable visitors. Others again may show simply a many-coiled and many-headed cobra with a jewelled collar, and very rarely they have merely a lotus flower inscribed. The many-headed cobra frequently appears in the ornamental work, and betokens reverence for the cobra which sheltered the Buddha from sun and storm while, lost in meditation, he had no care for the needs or sufferings of his own body.

The most striking representation is undoubtedly that on the higher levels of Mihintale hill, which stands sharply up from the plain, some eight miles from Anuradhapura. Here, on a terrace, raised so high that the western jungle can be seen spreading to the horizon like an ocean, is a rock pool, 132 feet in length and of unknown depth. Against the scarped cliff which springs sheer from it and is unreachable except from the water, the giant head of a five-hooded cobra is carved on the living rock; it is some 5 feet by 6 feet, and the thick body disappears into the water, tradition saying it continues on the bottom of the pool. This is supposed to be the "nagasondi," created by Aggabodhi I. (A.D. 629).

On a lower level of the same hill is one of the most fascinating of the Sinhalese fancies. This is a square rock-cut bath, one end of which is supported by a large lion, whose body, very much "in the round," stands boldly out. He is on his hind legs, with paws upraised, like a begging dog, and wears that seraphic smile peculiar to his kind. He is 7 feet 4 inches in height, and shows an extreme virility in his action. But perhaps of more real interest are the remarkable panels which border the bath, and depict in miniature, scenes of dancing girls, dwarfs fighting or boxing or wrestling, with so much verve that this monument is second to none.

The Sinhalese were very good at this small work in stone. Many of the capitals of the columns, showing friezes of dwarfs

or geese, are executed with precision and energy. Out in the jungle from Anuradhapura lies what is known to have been a "preaching hall"; here some of the panels are wrought with grace and skill. The chief feature of all the work is its restraint; the excellent proportion and strength of line is unhampered by that profusion of ornament which later crept across from India and tainted the work. Some of the Southern Indian temples, miracles of ingenuity and patience though they be, are nightmares in regard to ornament.

Among the work of this epoch it is not usual to find any scenes of wild life inscribed, beyond those arising from the Jatakas or scenes in the lives of the Buddha. Hence it is extremely interesting to have discovered at Anuradhapura a panel in one massive balustrade-stone, unfortunately split by the weather, showing a bas-relief of a mother monkey clasping her young one to her breast, while a cobra, rising from below, is foiled in his evil intent by his natural enemy, the mongoose. A drawing of this to scale was kindly made for me by Muhandiram Perera, in charge of the ruins on the spot.

The stout dwarfs appear very frequently on all stones, and are generally active and jolly. They are shown to advantage on a large highly-wrought stone, lying by itself amid a mass of severe ruins on the outskirts of the city, the purport of which is not yet fully understood. On the wall of the outlying monastery of Isurumuniya, is a panel design of a man and woman, which distinctly resembles the Indian style. Among other strange objects, in and about the city, which have evoked much speculation, are the great stone canoes, some 60 feet in length, and made of massive blocks of granite hollowed out. The fact that these are invariably in connexion with almshouses has led to the belief that they were receptacles for the collection of rice from the pious rich for the benefit of the poor brethren. A strange kind of alms-box!

Another curious stone is one lying flat on the ground, and divided into square holes in multiples of either three or five. These were called "yogi-stones" when first found, in the belief they were used by the monks for self-hypnotism, but now they are known to have been relic receptacles placed beneath the images of the Buddha, set up in shrines.

Images of the Buddha are not so frequent here as might be supposed; they are easily overturned, and being often made of or covered with precious metals, were probably a special object of the Tamils' cupidity. One such is described to us by Fah Hien, the Chinese pilgrim about A.D. 400, as having been made entirely of green jade, and holding in its hand a priceless pearl. As it was 20 cubits in height, and a Ceylon cubit is taken at 2 feet 3 inches, this makes 45 feet, and it must have been valuable indeed. Another, made by King Mahinda II (A.D. 838), was fashioned from 60,000 pieces of gold, and had its head adorned with a jewel of great value; while yet another, of King Datu Sena (A.D. 495), had its "supreme curly locks" ornamented by a "profusion of sapphires."

A few statues stand on the platform of Ruanweli, the most noted dagoba. These represent a king and the four Buddhas of these eras. The King was said to be Dutugemunu, the builder of the dagoba; and tradition points to another as that of King Bhatikabhaya (A.D. 42).

By far the greatest of the personal statues is that at the city of Polonnaruwa, an unmistakable portrait in stone. It was for long said to be Parakrama the Great (A.D. 1153), but as the man is undoubtedly a "holy man," for he holds a palm-leaf book as a warrior-king would not do, it is now supposed to have been some learned abbot of date contemporary with Parakrama. The statue is 11 feet 6 inches in height; it is cut from the living rock, on which a little boss is cleverly manipulated to allow the cap to rise above it. It is done by a master-hand, and is always one of the first objects to be asked for and the first to be admired by those who traverse the jungle roads to this jungle city.

Such was the art of a vanished kingdom. To consider now the two cities as a whole. The great beauty of Anuradhapura lies in the immense area over which are scattered ruins, any one of which may turn out on inspection to be a gem of sculpture or architecture. Pillars of granite with carved capitals stud the green sward where the devouring jungle has been cleared, and at almost any point the eye embraces the gleaming marble-like tints of well-worn granite in carven slabs, massive balustrades, well-set platforms, enormous open-air baths, or in graceful figures on "guardstones," and in a hundred other things of singu-

larly pure line and restrained ornament, many of which are in forms and for uses to be found nowhere else. The remains at Anuradhapura are of granite, which is found in the neighbourhood, with some limestone, and a good deal of brick, originally concealed beneath plaster. At Polonnaruwa this is reversed; there is some granite, but the greater part of the temples and buildings are of brick. We read of Anuradhapura enclosed by walls 65 miles in extent. The streets were laid out in straight lines; one at least, from gate to gate, being 16 miles long. The dwelling houses have vanished, being probably largely constructed of wood, but we have a picture of what they looked like on a stone used for a common purpose, of which two examples survive. In this wonderful city were employed no less than 500 scavengers for cleansing the streets, and purifying them by removing refuse; they also carried away the dead. The corporate life was carried on with a degree of civilisation amazing to consider in view of its antiquity.

The kings adorned the temples and dagobas with bands of precious metals; there were statues of the Buddha with eyes made of valuable jewels; beds of fragrant flowers were grown for the use of the temple. One king, at least, covered the enormous dome of the Ruanweli dagoba—larger than the dome of S. Paul's in London—with red paste, into which were stuck flowers, until it looked like a huge nosegay. Another laid a carpet, eight miles long, from the sacred hill of Mihintale, so that the pilgrims might arrive with clean feet. On festival days enormous paintings, depicting scenes in the life of the Buddha, were carried through the streets.

What is left of this magnificence? There are the dagobas, solid piles of millions of well-baked bricks, the highest of which reached the height of 400 feet when first built. They are shrunk now, in spite of excellent foundations, but they are still wonderful. Ruanweli has lost its original pudding-basin outline in a landslide, but it is 178 feet high. It was built over a collection of relics more sacred than any buried in a dagoba before. It has a tiny secret chamber in its heart to be used only by the monks, though once penetrated by that king whose statue has been mentioned—King Bhatikabhaya—who was so holy that he had worn hollows in the granite slabs by his knees!

Abhayagiri and Jetawanarama dagobas are 249 and 230 feet high respectively, and are crowned by great steeples of brick. They are commemorative monuments with no inner chamber. From some points all three domes can be seen at once, rising over the trees, but they are overgrown with jungle which cannot be removed, as the roots are interlaced with the brickwork. They are surrounded by successive tiers or terraces of granite, and show "altars" at the cardinal points, and guard-houses on the outer circumference. There are other dagobas not quite so large at Polonnaruwa, and smaller ones in plenty, such as the gleaming white bell shape of Thuparama (restored), 63 feet high, at the more ancient city.

One of the most interesting objects remaining to this day is the collection of 1,600 granite columns set closely together, on which was reared the splendid Brazen Palace with nine roofs, built in the first place by Dutugemunu, who, as he lay dying on a granite slab, still to be seen, turned first to one side, and then to the other, to survey this and Ruanweli, his two proudest monuments, because built by paid—and not forced—labour. As he lay thus he sent for his trusty warrior-friend, Thera-puttabhaya, who had fought twenty-eight battles by his side, and said to him: "Now single-handed have I commenced my conflict with death."

The Brazen Palace was paid for not only in money, but by a thousand suits of clothing and gifts of butter and honey, put at the gates for the workmen. The interior decoration was sumptuous, including an ivory throne with the sun on it in gold, the moon in silver, and the stars in pearls. More wonderful still, considering the era, the carpets were of woven wool; there were festoons hanging from the lamps, and all the implements, even down to the rice-ladle, were made of gleaming gold.

The building was for the use of monks attending the sacred Bo-tree close by, which was planted in the reign of King Tissa (288 B.C.), from a branch of the bo-tree under which the Buddha sat when he received inspiration. Great were the ceremonies and rejoicings at its planting. For two thousand years it has stood there, and even in the days when the city was deserted a few monks tended it. It is frequently referred to throughout the Chronicle; in time of drought it was once watered with milk. It is now old and shrunken, guarded by four successive terraces,

which have been built up round it. Thousands of pilgrims from all parts of the Buddhist world visit it, and to obtain a leaf is to establish a family heirloom. But few and scanty are the leaves on the parent tree, though the black monkeys leap freely in the leafy grove of its progeny around. It was mainly due to the presence of this, the oldest historical tree in the world, that Anuradhapura was a sacred as well as a royal city.

Of almost more attraction to many are the carved stones found lying in profusion all over the area once occupied by the cities, of which the most striking are the moonstones, already described in full; and the temples before which they stand, with their balustrades, guardstones, and stairs,—these are full of living beauty, and have that individual touch which only the hands of true artists can give.

The ruins of the Tooth Temple, with its curious carved columns, supposed to resemble teeth, bring to mind the Tooth of Buddha, a symbol of royalty, brought over from India in A.D. 311, and carried about in all the vicissitudes of the throne. It was stolen and recovered more than once, and he who held it held a talisman of potent influence with his fellow-countrymen. Whether it is the same tooth which is now lodged at Kandy is a moot point, as some say the original was stolen by the Portuguese and never recovered. The Wata-dagé, the circular relic-house remaining at Polonnaruwa built by Parakrama, is supposed to have housed the Tooth. It is a most strange building to our ideas, formed as it is by successive circular terraces rising one above or within the other, the outer one being about shoulder high. From the next inner platform, or terrace, rises a wall which has four entrances, with flights of steps at the cardinal points. These are all most highly decorated, and each differs from the other a little in design and treatment. The wall which runs between the entrances in four courses is carved with dwarf figures and lions, while the uppermost course is divided into panels with a unique design of floral pattern. This pattern, pierced by two entrances, is spoken of as "lattice work" in the Chronicle. Graceful pillars with carved capitals rise at each end of the panels, and inside is a red brick wall, circular also, which originally surrounded a dagoba with four sedent Buddhas facing round it, one at each entrance. The blocks and steps of this beautiful

and unique building were thrown asunder and scattered, but have been replaced by the archaeological authorities with infinite patience and care.

Another feature of the ruined cities is the beautiful open-air baths, built with enormous hewn blocks of granite, and having flights of steps with balustrades falling into them. Sometimes also dressing-rooms hewn from the living rock are provided. One smaller bath, about twenty-five feet across, of a most exquisite flower pattern, was recently discovered in the jungle about four miles from Polonnaruwa, and this is evidently identical with that lotus-flower bath built by Parakrama for the monks in the twelfth century.

It is curious that no trace of any palace has been discovered at Anuradhapura. At one time a very large temple, with a magnificently carved moonstone, was called the King's Palace, a name which has stuck to it, though it has long been proved it must be the extra large temple rebuilt by Mahinda II., at a cost of 300,000 pieces of gold. But at Polonnaruwa we have the shell of Parakrama's palace, without doubt. Five months were devoted by the archaeological authorities in 1911-1912 in clearing out the debris from this splendid ruin. It is of brick, and shows two large halls, the larger measuring 102 feet by 42 feet, with walls 10 feet in thickness. Besides these there were other large rooms above, as the building reached three storeys. Probably there was a balcony or veranda. All around—what we should call the "compound"—are a number of small buildings of the same depth, but varying lengths, which are presumed to have been for the use of attendants. There is a staircase in the main building; indications show that the rooms were not only large, but lofty and well-lighted, and there was a supply of water laid on, and sanitary arrangements, at a time when these things were not thought of in kings' houses in England.

Near by was a pleasure park laid out by Parakrama, of which we have a long description in the Chronicle. It was called the "Park of Heaven," and was filled with flowers and fruit-bearing trees. Bees were drawn to it by the sweet odours of the jasmine and frangipanni; peacocks strutted about on the well-clipped sward; there were lakes, and summer pavilions built on miniature islands and peninsulas. One was a "snow-white" house,

and near it was a hall "for displaying divers branches of knowledge and the arts"—what we should call a museum, in fact. One ruin near the palace, showing a frieze of elephants with extraordinarily lifelike and varied movements, gives us some idea what these pavilions may have looked like. Besides these amenities there were baths of strange devices, one overlaid with stones "coloured like the body of a serpent." Another had an octagonal hall built on to a rectangular hall over-looked by a water tower "from which issued forth sprays of water that were conducted through pipes by means of machines, making the place to look as if the clouds poured down rain without ceasing." The foundations of these are still in existence exactly as described. This delightful pleasure garden was enclosed by railings decorated with rows of images carved in ivory. To-day the rest-house for visitors is actually within its area.

Returning to the older city we find lying around outside, in what might be called "the suburbs," fourteen strange buildings, quite unlike anything within the city, and it was at first conjectured that here might be found the missing palace. They are all built in the same way, with two platforms connected by an enormous stone, sometimes weighing as much as thirty tons, over a miniature moat. They all have had similar porches, one of which, restored to the original form, can be seen in the illustration. It is certainly strange that this group of buildings, differing in many essential particulars from any within the wall, should be found strung out around the city. The stones are perfectly plain, with a severity of line not found elsewhere, and this led Mr. Bell, so long Archæological Commissioner, to judge that it was for a peculiar sect of monks, the Pansukulika brethren, or Rag-robed fraternity, that they were built.

The outlying monastery of Isurumuniya has many points of interest, being built into the black rocks in a way that suggests the nests of swallows. It dates from the time of King Tissa, but has been much "restored" under the venerable Abbot, who cannot speak English, but presents his calling card, engraved "Rev. H. J. Saranankara," to visitors.

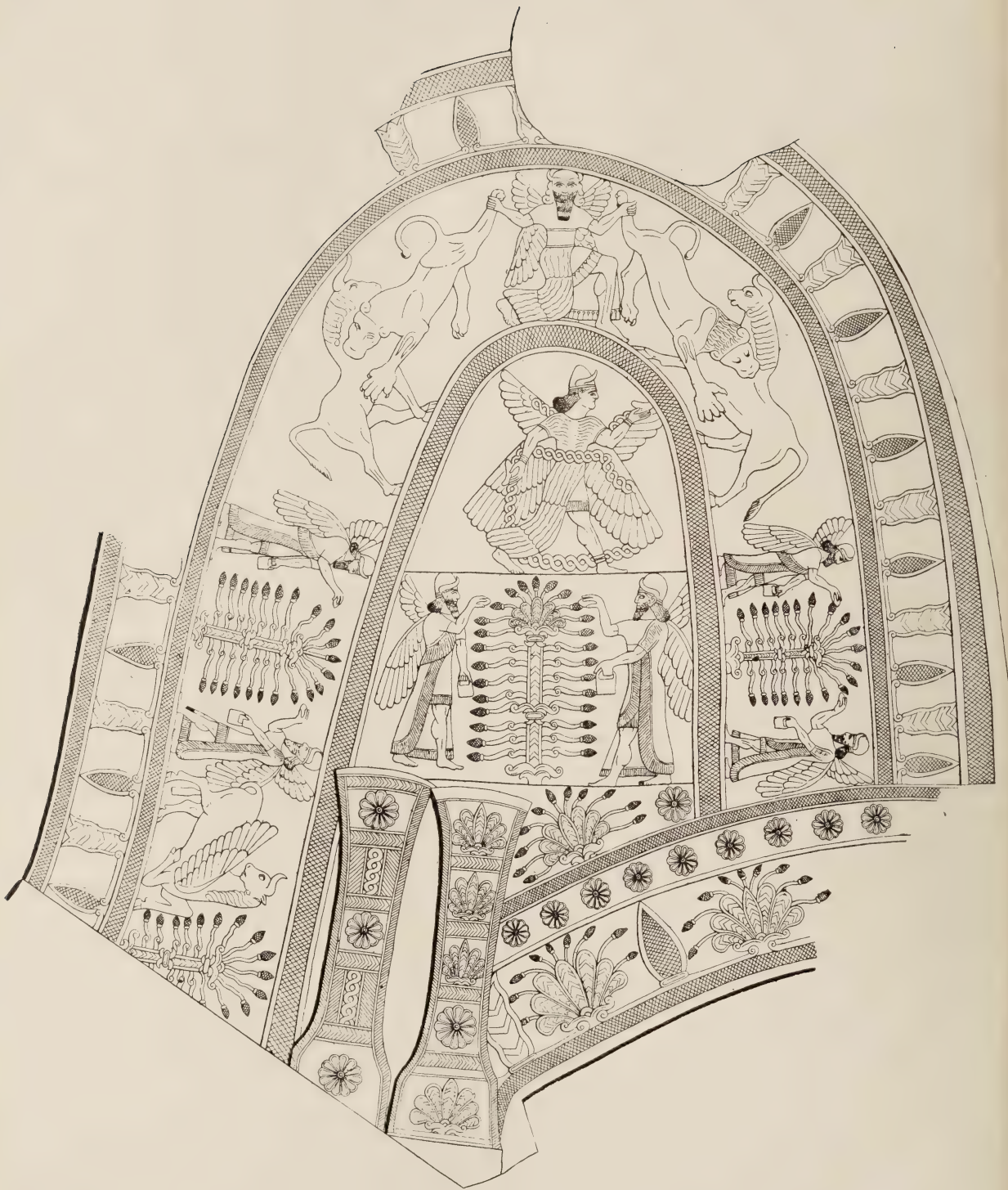
Polonnaruwa is less known than the older capital, not being on any railway, but lying at the end of a road which here disappears into the jungle. The animal life is consequently a great



Photo by permission of the Trustees of the British Museum.

EQUINE FLEETNESS AND LEONINE STRENGTH FIXED FOR EVER IN STONE

By the time of Ashurbanipal the hecatombs of himself and of his hunting ancestors seem so to have reduced the number of lions in the district that it was found necessary to fetch imported specimens from the south and keep them in cages against the day of the hunt. The upper register of this slab from his reign depicts horsemen off with bow and arrow to the chase, and the lower a lion being released from its timber cage by an attendant, who stands above protected (somewhat inadequately!) by a grille.



From Layard's "Monuments of Nineveh."

SYMBOLIC EMBROIDERIES ON THE UPPER PART OF A KING'S ROBE

The elaborate decoration on the robes of kings shown in the bas-reliefs appear to have been in the nature of embroideries on a woollen garment rather than chasings on a breast plate. In this example from the mound at Nimrud the recurring motif is the sacred tree flanked by winged figures—priests in ceremonial dress or more probably genii. In the centre is a beardless winged figure with a chalice, and in the border above a heraldic group of a kneeling figure with horned cap grasping by the hind leg two lions, which, in turn, are attacking bulls. Around is a lily and fir-cone border, and below are the chased handles of two daggers worn by the king.



Photo by permission of the Trustees of the British Museum.

VIRILE TREATMENT IN BAS-RELIEF OF A MUSCULAR LIONESS

Assyrian sculptors were far more successful in their treatment of animals than of human beings—and of all animals the lion, the quarry of kings, seems to have been their favourite. In this relief from the palace of Ashurbanipal, one of these noble beasts is shown amid park-like surroundings, indicated by a lily, a tree round which twines a grape-laden vine, a tuft of daisies or similar flowers, and the trunk of a palm. She (it is a lioness) crouches cat-like at her ease; her mate once faced her on the right.



Photo by permission of the Trustees of the British Museum.

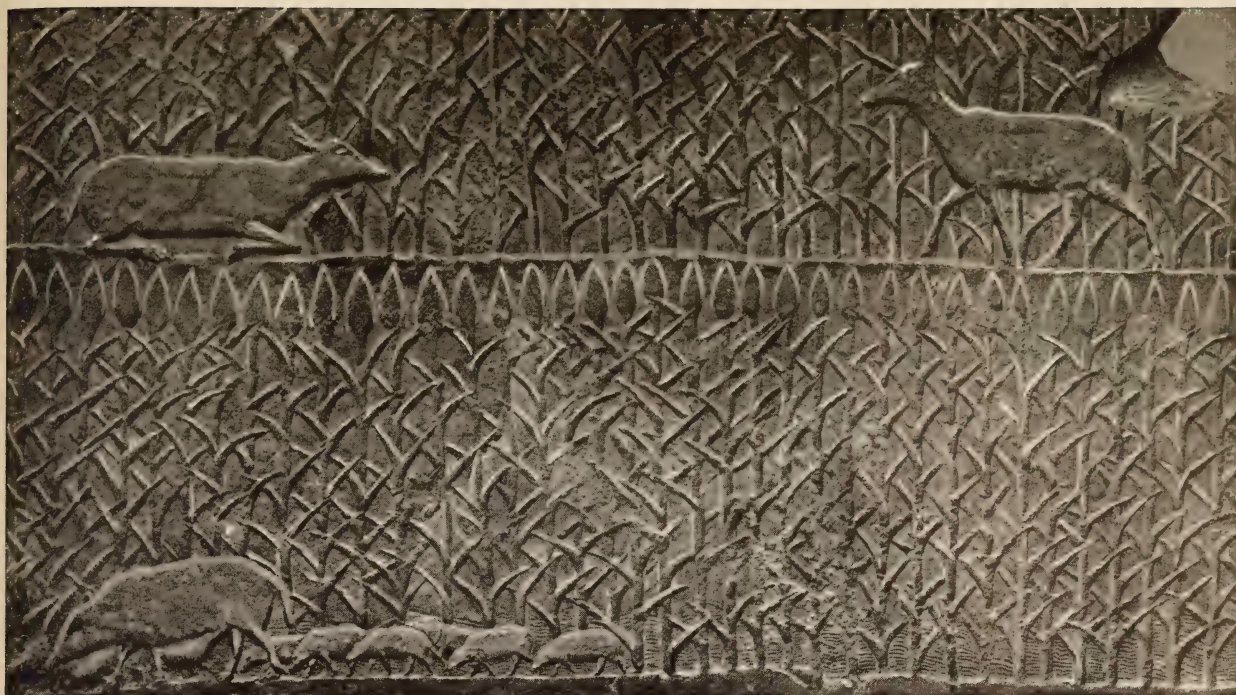
CHASED BRONZE BOWL FROM THE PALACE OF ASHURNASIRPAL

A hoard of bronze vessels of the same general type as that illustrated above was discovered heaped together in a room of the Northwest Palace, or Palace of Ashurnasirpal, at Nimrud. This particular example is embossed with a flower-like centre-piece and three concentric rings of freely executed animals—goats on the inside, bulls on the outside, and in the centre cattle and winged gryphons, both alone and being attacked by lions. On the right-hand side is a ring for suspension, of good technical finish.

feature, and wild elephants, the tsaing, and other large creatures, can be seen in their native state. Parakrama's mother was a Tamil, and many of the Tamil raiders stayed behind when their fellows withdrew, and intermarried with the people of the island, so that by this time the influence of Indian art was sensibly felt. Some of the larger temples, such as Thuparama and Jetawanarama, are full of similarities to Indian buildings. Thuparama Temple has been carefully restored. Some of the smaller buildings are called after Hindu deities, as Siva devalé and Vishnu devalé, both gems of architecture in a miniature way. A very odd building is the Sat-mahalprasada, a seven-storeyed erection of diminishing size, not hollow, but filled in, with the exception of a small passage through which a snake might creep. There is something similar found in Cambodia (see pages 45-53).

Close by is the Gal-pota, or stone book, nearly twenty-seven feet in length, and four feet seven inches in breadth, varying in thickness from one foot four inches to two feet two inches. It is in exact imitation of an ola, or palm-leaf book, and carries an inscription of King Nissanka Malla (1187 A.D.). This stone, which is highly carved, as well as being inscribed, was brought from Mihintale, about sixty miles distant, though it weighs twenty-five tons. At a little distance out in the jungle is the famous prostrate image of the Buddha mourned by his disciple, the sorrowing Ananda. The image of the Buddha is over forty-four feet in length, and attracts pilgrims from far and wide who do honour to him by swinging water from a lota over his head, and chanting a strange and musical litany.

Even now only the most remarkable features of these cities have been catalogued, and much remains to be told. But a city like Anuradhapura, which existed as a capital for twelve centuries, and is so remarkably revealed to us in its unequalled historical Chronicle, will always lure the imagination. In addition to this there is in both places that fascination of a bygone race revealed in some of the most artistic and original monuments to be found in the world.



UNHARASSED BY THE CHASE: ANIMALS ROAMING AT WILL IN A MARSH

This scene forms part of a relief representing the building of Sennacherib's palace—the background, as it were, but for the absence of perspective. The strange cross-hatchings, one of the many conventional artifices of the Assyrian sculptor, indicate marsh-land, in which animals are taking their rest or wandering at will. At the bottom a sow is feeding, accompanied by her litter. Though sometimes at fault in depicting beasts not of his own country, the artist generally shows an acute observation.



Photos by permission of the Trustees of the British Museum.

HUNTERS AND HUNTED: WILD ASSES PURSUED AND CAPTURED

Ashurbanipal, with his huntsmen and his dogs, has gone forth to the chase; a herd of wild asses has been located and surprised, and the beaters have driven them in upon the waiting marksmen; some are despatched with arrows, but one at least, as seen above, has been caught—intended, no doubt, to keep up the supply of mules, which were used as beasts of burden. In the lower right-hand corner one of the poor animals has stopped in its flight to kick out at its tormentors, a picture filled with life.



Photos by permission of the Trustees of the British Museum.

REALISTIC VISIONS OF THE HUNTING-FIELD IN THE DAYS OF ASHURBANIPAL

Incidents from the great hunt of Ashurbanipal. Top, a magnificently proportioned male lion, heart and lungs transfixed by an arrow, vomits a wave of blood and strains every last muscle to keep himself from collapsing. Below, a lioness riddled with arrows, one of which has shattered the spinal cord above the loins, barely drags her paralysed hind-limbs along the ground, yet roars defiance with her last breath. That the Assyrian artists should have carved these things so excellently well does them every credit; that they delighted in carving them only goes to confirm an opinion of their race which its whole history forces upon us.



The Louvre. Photo by Giraudon.

TOP OF A STELE

This stele, of the time of Hammurabi, shows a bearded figure wearing a flounced woollen garment and four-horned cap. Above his head is the symbol of the double star.



The Louvre. Photo by Giraudon.

LAST HONOURS PAID TO THE VALIANT DEAD

A fragment of a stele of hard, white stone, discovered at Tell-lo, the ancient Lagash, shows the burial of their dead by the victors after a battle. The corpses lie in a row in a terra-cotta tomb, and two men heap earth from baskets over them; another fragment shows birds devouring the conquered. It dates from very early times, when Lagash was a Sumerian city.



Photos by permission of the Trustees of the British Museum.

PLASTIC ART IN ASSYRIA AND BABYLONIA: MINOR TERRA-COTTAS

Left to right: Terra-cotta statuette of a bearded Assyrian priest, probably a foundation figure, from the palace of Ashurbanipal (height, about $3\frac{3}{4}$ inches); small hooded figurine; terra-cotta head of a Babylonian demon, about 5 inches high, with the features, grotesque but unmistakable, of a mastiff; terra-cotta statuette, $2\frac{5}{8}$ inches high, of one of the favourite hunting-dogs of Ashurbanipal; and finally, lightly-fired Assyrian earthenware figure, about 4 inches high, of the god Dagon (Anu, the Oannes of Berossus), a divinity blended of fish and man, or of one of his priests; the material is coarse and friable.



From Layard's "Monuments of Nineveh."

CELESTIAL CONFLICT CARVED ON TEMPLE WALLS AT NIMRUD

Flanking the doorway to the small temple of Enurta at Nimrud, these reliefs represent the conflict of Ashur with Tîamat. Ashur was the hero-god of Assyria, and corresponded to Marduk in Babylonia; he was chosen by the other gods to defend them against the primeval dragon-goddess who had planned to destroy them. After a long struggle he killed her and formed heaven and earth of her body. Ashur seems to wield the prototype of the Olympian thunderbolt; the figure on the left is a priest.

ANCIENT ARTS AND CRAFTS. V
THE ARTS IN BABYLONIA AND ASSYRIA
BY LEWIS SPENCE, F.R.A.I.

THE ARTS IN BABYLONIA AND ASSYRIA

BY LEWIS SPENCE, F.R.A.I.

Author of "Myths and Legends of Babylonia and Assyria"

A CONSIDERABLE amount of material for the study of Assyrian and Babylonian Art has been given already in the two chapters entitled "The Splendours of Nineveh and Khorsabad" and "Babylon the Great"; and in the following chapter Mr. Spence ably sums up the artistic genius of the whole race of whom those cities were the crown and the glory. In this connexion the article on "Ur of the Chaldees" should also be mentioned, for it must be borne in mind that the Sumerians played the same part in the æsthetic history of the land as the "Myceneans" in the culture of Greece. For the place-names, consult the map facing page 247. See also the later chapters on Susa and Persepolis.—EDITOR.

IT was formerly the fashion to regard early European artistic development as having received its only impetus from Egypt. But although it is abundantly clear that Nilotic art influenced every department of modern craftsmanship, the debt which European artists and artisans owe to their Chaldean forerunners is not so widely recognised as æsthetic justice demands.

Egyptian influence upon Babylonian-Assyrian art itself was comparatively late and indirect, finding its way into Mesopotamia through the agency of the Aramæans of Palestine. By the time it appeared, indeed, Mesopotamian art had achieved that individuality and distinctiveness which is the outcome of prolonged racial effort within a given environment. To whatever period or school we turn in the artistic chronicles of Chaldea we never fail to discover in its productions the unmistakable evidences of æsthetic unity. But that it was not without its own influential abilities is shown by the sway it exercised over the early art of Greece. The frieze of the Parthenon is merely a more up-to-date

Assyrian frieze, its prancing horses might have been stabled behind the palace of Ashurbanipal (Assurbanipal), or its low reliefs might have been cut in the alabaster of Mosul. So it is with the lesser crafts of Europe. When Byzantium and Morocco flooded Europe with their artistic gifts, they gave not of their own, but out of the treasure-house of old Babylon, so that there is not one artistic process known to the modern world but derives in a measure from some Babylonian prototype.

The people of Babylon were artistically inclined, if heavily shackled by tradition. Only it is clear that they practised art not for art's sake, like the Greeks, but for the glorification of their gods and kings. Their effort, as a whole, was surpassed by that of Egypt, but in some departments, such as the bas-relief and the adaptation of artistic motifs to the products of industry, they seem to have outstripped their African contemporaries, and, if the sculpture of Mesopotamia cannot compare with that of Egypt in delicacy and dignity, it is by no means inferior to it in the qualities of fidelity and movement.

But the Chaldean sculptors were badly hampered by the sumptuary customs of their race, who, unlike the Greeks and Egyptians, considered it shameful to appear unclad. This custom probably had its origin in the capricious nature of local climatic conditions, in which a scorching sun was frequently accompanied by biting winds. The heavy and luxurious cloaks and mantles in which the Chaldeans wrapped themselves rendered a vogue of the nude in art impossible, and thus gave the sculptor no opportunity for the representation of that most noble of all subjects, the human form divine.

Thus cut off from that anatomical study of the human body which is the basis of artistic excellence, the Babylonian sculptor, like the schoolboy with slate and pencil, too often composed his figures as though they consisted of garments to which heads, arms, and legs had been fortuitously attached. The body is nearly always much too squat and disproportionate. The unclothed parts are exaggerated in their muscular development and hirsute adornments. Kings and priests are depicted as of herculean mould, and the meticulous decoration of their beards must make the modern hairdresser grieve that he did not keep a booth in Nineveh.



From Layard's "Monuments of Nineveh."

PAINTED BRICKS THAT MADE BRIGHT AN ASSYRIAN PALACE

In the upper of these two painted bricks from Nimrud yellow is the dominant note, and in the lower, blue; and yellow and blue were the two favourite colours of the Assyrian artist, obtained respectively from antimoniate of lead and oxide of copper. Above, two kneeling bulls, outlines picked out in black, face each other between two bands of conventional design; and below we see a portion of a decorative frieze in which intertwining bands separate honeysuckle motifs alternated with fir-cones and lilies.

But Chaldean, and especially Assyrian, sculpture had a documentary as well as an artistic side. The series of bas-reliefs with which the walls of the palaces were covered were chronicles as well as works of art. The sculptor illustrated the political events of his time. When he dealt with groups or processions he was capable of inspiring them with a certain rhythm and dignity, but his treatment of such themes sadly lacks variety, and has only too often the repetitive and monotonous appearance of a motif in stencil.

The medium in which he works invariably reacts upon the labours of the artist. In general the sculptors of Babylonia employed stone of extraordinary hardness—basalt, diorite, or dolerite, the only varieties procurable. But in Assyria easily-cut stones, such as alabaster and limestone, were plentiful. Alabaster, in which most of the Assyrian friezes were carved, occurs in great quantities in the neighbourhood of Nineveh. It is a sulphate of chalk, soft, but susceptible of a high polish. This accounts for the comparative rarity of the bas-relief in the more southerly region and for its profusion among the ruins of Assyria. But the very tractability of the material in which he wrought frequently betrayed the Assyrian sculptor, and his friezes too often display an extraordinary combination of incisiveness and looseness of treatment. His chisel, it would seem, has been driven with a stroke at once virile and hasty. The yielding alabaster tempted his hand, and insensibly he was led to over-accent and exaggerate his effects.

Like all early artists he began with the representation of profiles, and maintained his preference for these almost to the end. He had not progressed far when he essayed sculptures in the round, but this attempt he soon departed from. He excelled in the bas-relief, in figures which stood out from the bed with a frankness which in places approaches the round, occasionally reinforcing his relief with a shallow incised outline. Most of his work is in one plane only, a mode which makes for dignity of design if also for monotony. He never employed those devices which seem to get rid of the bed or ground, nor destroyed the wonderful sharpness of his conception by the unnecessary introduction of planes. Of perspective and foreshortening he was sublimely unaware, and this ignorance saved him from the grand

error of those Renaissance schools who made of the bas-relief an excuse for supported statuary.

The colossal figures of lions and winged bulls which guarded the gates of city and palace are, on the other hand, a compromise between low relief and the round. At the first glance they appear to be true statues, but a side-view reveals the fact that only the forepart of the animal stands apart from the block out of which it is carved, for the soft alabaster was much too yielding to support their bulk otherwise. They have five legs, so that they may always present four to the eye. With the figures of animals the Assyrian sculptor was more successful than with those of men. He saw them as they were, and modelled them accordingly.

Babylonian sculpture was to that of Assyria what the Greek art of Pheidias and Praxiteles was to the Alexandrian and Græco-Roman schools. The softer medium in which the Assyrian worked lent to his productions a greater delicacy than that to which the Chaldeans ever attained, and a certain elegance overspread his compositions as a whole. But in the early sculptures of Babylonia, such as the famous statues of Gudea, governor of Lagash, the modelling is more natural and more sincere. In a word the Babylonian sculptor studied human anatomy and his pupil, the Assyrian, tended either to neglect or exaggerate it.

It can scarcely be said that the peoples of the ancient East painted in the sense that we now employ the term. But they revelled in colour-effects, and used them unsparingly in the decoration of interiors. Their pigments were, for the most part, derived from natural earths and plants. The favourite hues were blue and yellow, the former being utilised for the rich backgrounds so characteristic of Babylonian painting and enamelling, while yellow served to give saliency to figures and designs. A dark Egyptian red was also in use, but true reds are as rarely found as greens on the Chaldean palette, and only in rare instances are details reinforced by the agency of those touches of black and white the almost magical effect of which is so well understood and so skilfully employed by the modern decorative artist.

The Babylonian painter sometimes obtained his blues from



LEONINE RAGE IN LIMESTONE

This magnificent lion's head is carved in limestone, a material which occurs in Assyria but not in Babylonia, and admitted of free and flowing treatment by the Assyrian sculptors by reason of its consistency, soft compared with the Babylonian diorites.



By permission of the Trustees of the British Museum.

PORTRAITURE ABOUT 2500 B.C.

Limestone figure of a Sumerian royal personage, or priestly official, who belonged to one of the non-Semitic families which reigned at Lagash about 2500 B.C. It may be compared with the stone portrait of the keeper of the granary, Kur-lil, on another page.



The Louvre. Photo by Giraudon.

ENAMELLED LION 3000 YEARS OLD

Terra-cotta objects, such as this lion, dating from about the eleventh century B.C., were often coated with a fine vitreous glaze or enamel firing to tones of blue or green. Objects to be glazed were usually not baked so hard as other bricks or terra-cottas, in order that the glaze might penetrate on vitrification.

an oxide of copper mixed with a little lead. The yellow was an antimoniate of lead mingled with a small proportion of tin, and now known as Naples yellow. His white was an oxide of tin. Dark red was obtained from a sub-oxide of copper or from iron oxide. The whole palette, then, was strictly limited, consisting of some five or six colours.

The painting of old Mesopotamia was purely decorative and in one plane. As with the devotees of modern New Art, the ancient painter refused to confine himself to the tints of nature, and employed those which he considered most suited to the general scheme of decoration. Thus we encounter on the walls of Khorsabad and Nimrud blue bulls and gryphons, yellow men and trees; in short, such unnatural colours and a technique of such conventional regularity as are to be observed in certain ultra-modern wallpapers and posters. For the modern designer, whether he is conscious of it or not, derives his entire "bag of tricks" from Mesopotamia and Egypt, and in the startling effects which meet us on every advertisement hoarding we can trace legacies of form and colour from the long-dead painters of Nineveh and Memphis.

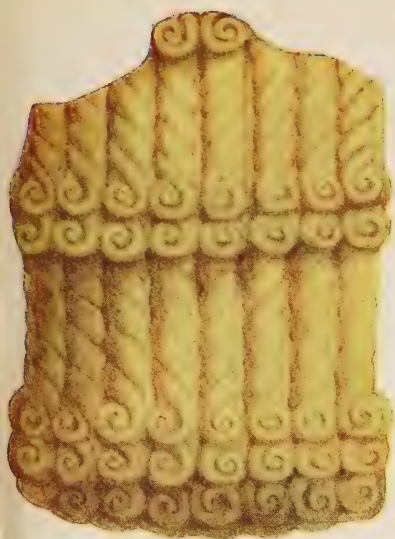
Extensive as excavation has been in the soil of Mesopotamia, it has failed to unearth those hoards of gold and silver jewelry the discovery of which has done so much to awaken interest in Egyptian research. To account for their absence among the ruins is difficult. We can, of course, form a complete idea of Babylonian jewelry from that worn by the figures on the bas-reliefs. In the foundation of Sargon's palace at Nineveh were found the remains of necklaces of carnelian, jasper, sardonyx, and amethyst cut in almost every conceivable shape. Kings wore necklaces every separate stone in which had a precise symbolic significance. But the massive bracelets which we see worn by gods and monarchs are usually unadorned by chasing or appliqué work. This notwithstanding, the Assyrian jeweller was capable of lighter and more graceful designs. Slender gold tubes, soldered by the blow-pipe, and separated by beads or studs cast in moulds, were fashioned into necklaces for the great ladies of the Court, and from moulds of serpentine which have been discovered we can reconstruct the finer processes of the Chaldean jeweller's art. If he wished to make a solid earring or other

ornament he ran the molten metal into one of these moulds, and then gave sharpness to the design with the graver or chasing-tool. But he frequently gave a mere shell of gold or silver the appearance of solidity by stamping the metal in successive leaves or layers into the die with a punch or mallet.

Ivory, pearls, and mother-of-pearl entered largely into the composition of Babylonian jewelry, but the chief glory of the Mesopotamian craftsmen were the wonderful engraved gems which have been found in such profusion. Herodotus was struck by the very general use made of seals and signets in the city of Babylon by all classes.

"Every Babylonian," he says, "had a seal." It served him as a personal symbol, as a distinctive and unforgeable signature which he could stamp on the clay documents employed for business purposes. These seals were engraved on chalcedony, crystal, jasper, marble, agate, hematite, basalt, and a variety of other stones, and there are indications that they were as much of the nature of amulets as signets, the engraved pictures of gods and guardian genii investing them with a protective significance.

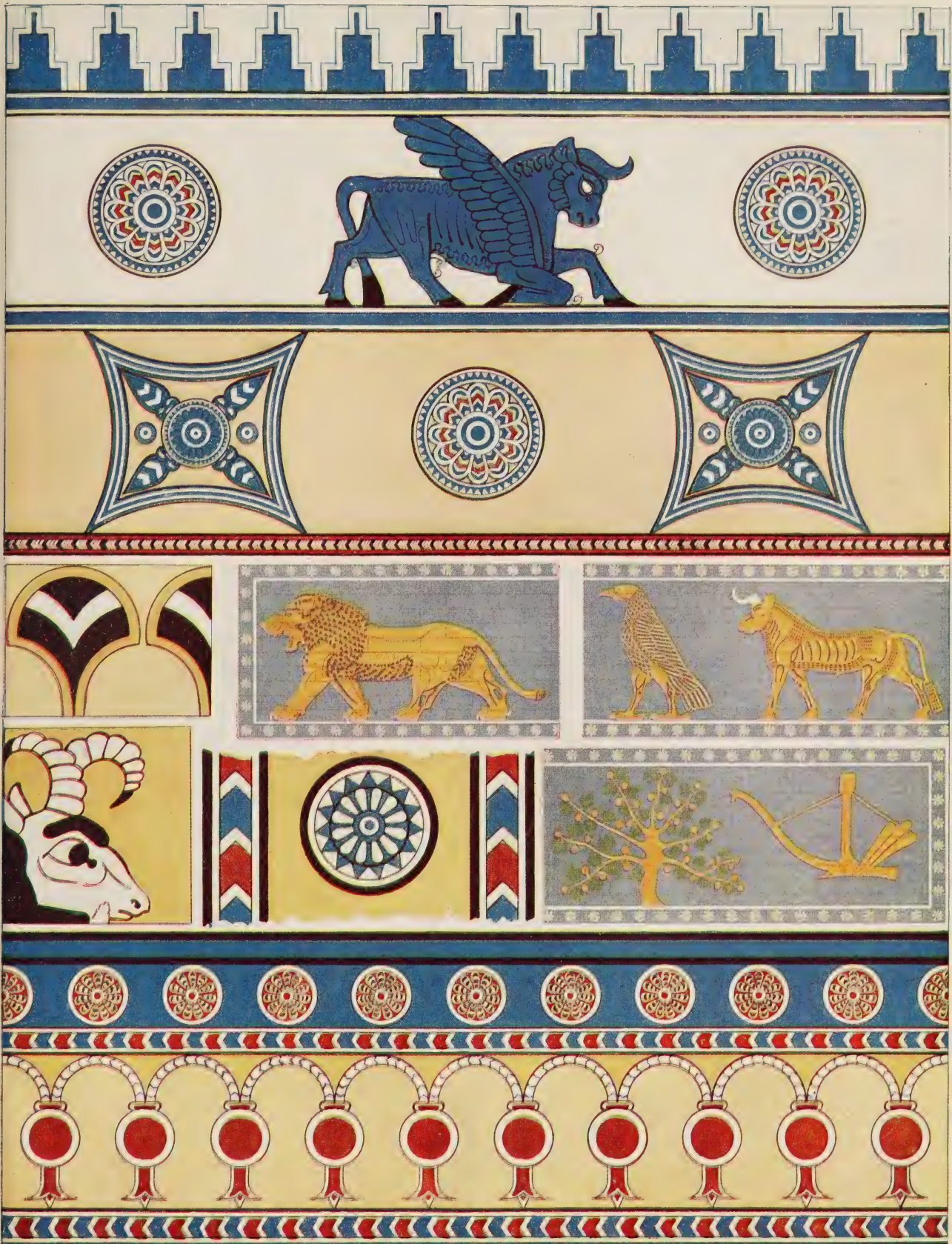
They were ground into cylindrical form so that they might be easily rolled over the soft clay on which letters, contracts, and other documents were stamped. They are usually from two to three-fifths of an inch in diameter and from three-quarters of an inch to an inch and a half in length, and they were worn round the neck or wrist by a cord which passed through them lengthwise. The designs were engraved in intaglio. At first these were cut by a hand-drill turned by a bow, like a modern centre-bit. But later, about the eighth century B.C., the lathe or wheel with a revolving metal point attached was brought into requisition. The boring power of this point was reinforced by emery-powder or corundum dust made from sapphires, amethysts, or topazes; only two instruments seem to have been used—one for round hollows and another for straight lines. The early figures engraved by the older process bear a quaint resemblance to the small lay-figures with ball-and-socket joints used by modern painters. In short, the tyranny of his tool was strong upon the early Chaldean gem-engraver. But as he gained in skill and confidence he produced work which can almost compare with that of the best modern lapidaries. At the same time, the execution



from Layard's "Monuments of Nineveh."

GLAZED WARE AND POTTERY FROM THE GOLDEN AGE OF ASSYRIA

In the bottom row are three glazed pots from tombs at Nimrud, of delicate form, but unambitious decoration; the potter's craft does not seem to have been held in such repute in Assyria as elsewhere. Above on the left are two fragments representing hair, both probably portions of the beard of a statue, the upper being of clay and the lower of enamel. On the right is a portion of a painted brick, showing a king with a chalice, about to pour a libation after hunting, followed by an attendant bearing his quiver. All from Nimrud.



From Layard's "Monuments of Nineveh."

BLUES, REDS, AND YELLOWS OF THE ASSYRIAN GLAZIER'S WORKSHOP

In this series of bricks and tiles we realise the Assyrian fondness for blues and yellows, although a dark red obtained from iron oxide or a sub-oxide of copper also appears in the bottom examples. The objects represented include a kneeling winged bull, a lion, an eagle and a bull, a ram's head, a tree with vine-like leaves and habit of growth, and a plough. The rest consists of purely decorative designs, conventional but aesthetically satisfying.

is a little hard and dry, and is made up of short strokes of the burin close together, the more rhythmic use of the wrist as seen in the best Greek intaglios being conspicuously absent.

Several schools of the lapidary's art existed in Mesopotamia at various periods. Those of Ur, of Erech, and of Akkad seem to have surpassed in more early times, while in later days the capitals of Babylon and Nineveh were renowned for the beauty and finish of their cylinders. We can distinguish those signets made in Assyria by the symbols usually engraved upon them—the mystic tree, the winged globe, the eagle-headed deity—and by the difference in the costumes worn by the figures which are usually present.

No art was so typical of Chaldea as that of the brickmaker. Babylonia was the birthplace of the enamelled tile. It was a land of clay and not of stone, and the clay-brick when painted and glazed made a handsome and enduring ornament. Babylonian tile-making is unsurpassed by the most elaborate productions of modern skill. The clay was reinforced with chopped reeds from the riverbanks mixed with water, and kneaded by foot in wide and shallow basins. It was then shaped in almost square moulds, about fifteen inches square and from ten to four inches thick, and was well burned in an oven or kiln. In laying the brick the face bearing the builder's inscription was turned downwards. Bricks for enamelling were not so thoroughly fired as those employed in ordinary building, as otherwise the colours, when vitrified, would not have penetrated to a sufficient depth. The glaze used in this process was metallic, an oxide of lead, and the favourite colours employed were antimoniate of lead, or Naples yellow, a white from oxide of tin, a blue from oxide of copper, to which lead was added to facilitate the fusion of the glaze, and a red from suboxide of copper. The figures were first modelled in a vitreous paste, and then coloured with liquid enamels. The paste and the enamels had the same point of fusion, and seem to have melted one into the other so that the somewhat crude and glaring colours of the enamels have been chastened by a pleasing softness as on the Ishtar gate.

The brickmaker was at once the printer and mural decorator of the community, for on the unfired bricks and slabs he made were impressed the wedge-shaped hieroglyphs in which royal

edicts, sacred books, and title-deeds were written—ay, even the I O U's of money-lenders, while the beautiful tiles which decorated the walls of palaces and temples came from his kilns.

Early Babylonian pottery is graceful but undecorated. Between the ninth and seventh centuries B.C. a taste for decorating pottery set in. But it did not last. The Chaldean potter seems to have conceived a contempt for his material. Clay was a substance so common and abundant in Mesopotamia that it does not seem to have occurred to him to employ it as an object of luxury or for æsthetic purposes. When the Babylonian or Assyrian wanted fine vases he turned to bronze, and thus only fragments of his faience catch a certain passing distinction.

The Babylonians must have learnt the craft of the smith from other peoples. They do not seem to have employed bronze much before the time of Sargon of Akkad (c. 2800 B.C.), and the oldest metal tools and weapons found at Tell-lo are of copper from the Sinaitic Peninsula, without any admixture of tin. This metal, indeed, had to be procured from a much greater distance, and the nearest sources for such a quantity as would satisfy the large demand were India or the Malay Peninsula to the east or Cornwall to the west. Perhaps the tin in the bronze objects preserved in the Babylonian Room in the British Museum came from Britain many thousands of years ago through Phœnicia. Bronze from Nineveh contains on the average about 89 per cent. of copper. The molten metal was run into moulds of stone or clay of which there are extant examples.

Iron was at first regarded as a precious metal, but later, during the ninth and eighth centuries B.C., was manufactured into tools and utensils of every kind. An entire roomful of iron implements was found at Khorsabad by Place—hooks, grappling-irons, chain-cables, picks, mattocks, hammers, and ploughshares. The smith attached to the expedition wrought some of it into sickles, screws, and nuts. The instruments formed a wall of iron, which it took three days to dig out, and weighed about one hundred and sixty tons. The Chaldeans procured their iron from the region bounded by the Euxine, the Caucasus, the Caspian, and the highlands of Cappadocia, the country of the Chalybes. Bronze was, in later times, used almost entirely for various decorative purposes.

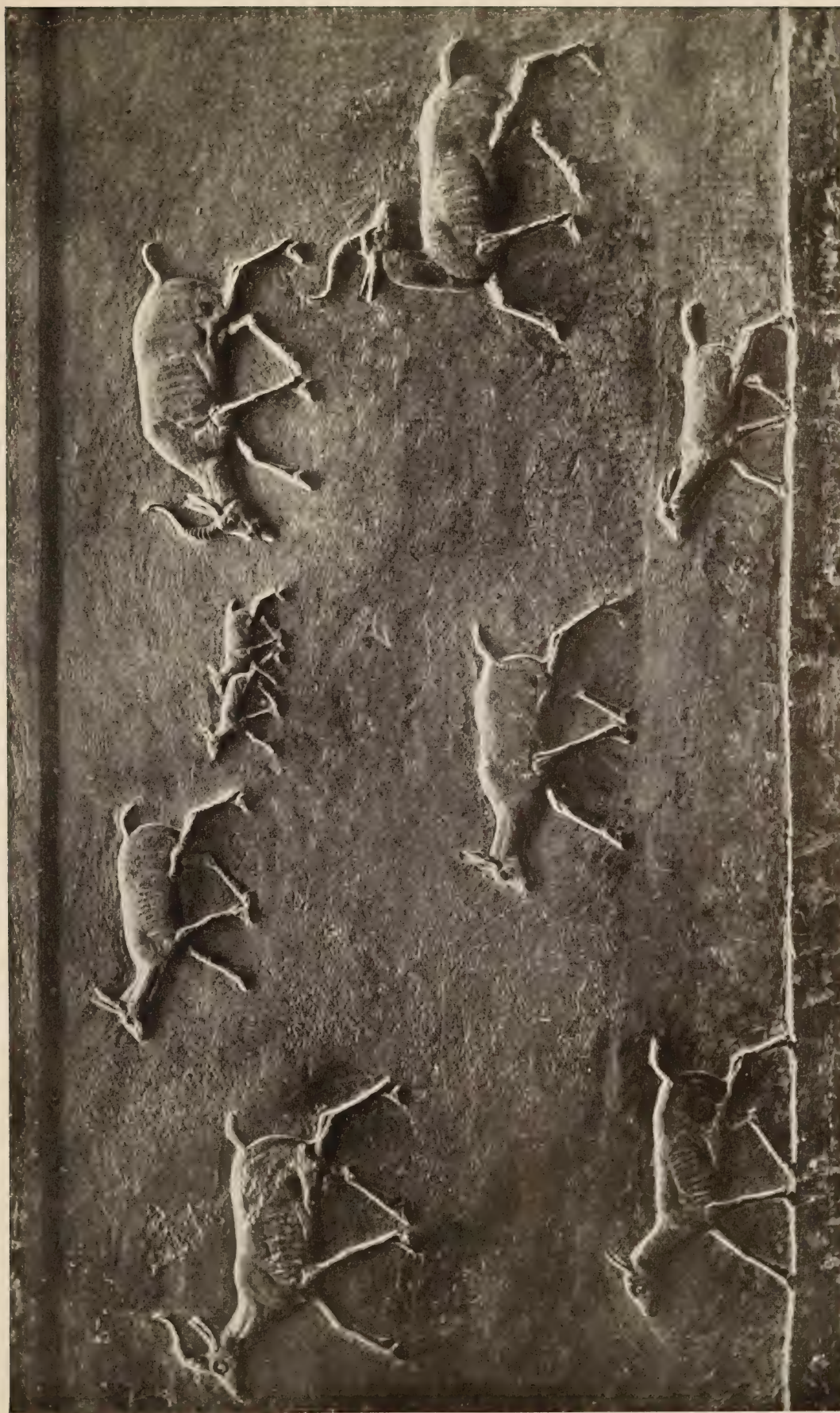


Photo by permission of the Trustees of the British Museum.

ANIMATED SCULPTURE OF GOATS AND KIDS QUIETLY CROPPING THE HERBAGE BEFORE THE CHASE

These delightful figures of wild goats are from a hunting scene, and are the work of the sculptors of Ashurbanipal--the last period, that is, of Assyrian art. The herd is grazing quietly with its young over the plain; for the most part they are unconscious of any danger, but the last of them, on the right, is looking back over its shoulder as though it has caught the first wind of the hunters and beaters who will soon be driving them into the waiting nets. The stricken lions on another page give the chase in its more gruesome aspects; about these lesser wild things there is a quiet pathos which is all but unexcelled. With what a rude contrast, artistically as well as emotionally, will the more clumsily executed hunters intrude!



Photo by permission of the Trustees of the British Museum.

WILD ASSES HARRIED FROM THEIR UPLAND PASTURES BY THE BOWMEN OF ASHURBANIPAL

This is part of the frieze of which another portion will be found illustrated on another page; it shows the incidents in a chase of wild asses undertaken by that indefatigable hunter, Ashurbanipal. Whereas in the other slab some of the asses seem to be making good their escape, here the quarry appears to have no hope. On the left one ass rears wildly with the shock of pain as the arrows strike home; below another is collapsing, and one has already succumbed. On the right a pathetic figure is struck by a young foal fleeing with the rest of the herd. One feels that the artist, so life-like are his creations, must have been commanded to accompany the chase, so as to observe at first-hand what he must later transfer to stone.

The art of the carpenter and cabinet-maker reached a high standard in Chaldea. Before the days of Sargon of Akkad there appears to have been a regular trade in the importation of timber from foreign lands. Cedar was brought from Lebanon and Amanus, and other woods from Elam. Wood was always expensive in Babylon as in Egypt, and the lessees of houses usually removed their doors at the end of a lease, just as some modern householders remove their fittings.

The prophet Nahum alludes to the "pleasant furniture" of Nineveh, and the bas-reliefs furnish us with abundant evidence that his eulogium on Assyrian movables was justified. Unhappily, none of it has survived to delight our eyes like the graceful and exquisitely-panelled chairs and couches which have recently been retrieved from the tomb of Tutankhamen, and the carven semblance of many beautiful pieces is all we possess to solace us for its loss. In Ashurbanipal's gorgeous palace at Nineveh, Layard came upon the remains of the royal throne. The wooden panels and arms had fallen into dust many centuries before, but the bronze plaques and appliqué work remained, the former containing a spirited representation of winged genii fighting with monsters. No rough-and-ready joinery was tolerated in the workshops of Nineveh. The various parts were connected by tenons and mortices, and carefully dovetailed.

The Assyrian cabinet-maker was by no means satisfied with the constant reproduction of similar models. Rich in inventive faculty, he revelled in complex designs, inlaying his pieces with ivory, gold, and semi-precious stones. He upholstered chairs by fitting brightly-coloured cushions to their seats. The proportion of his pieces is usually light and elegant, and the metal ornaments with which he decorated them never overburdened the almost severe simplicity of the design. These chairs of cedar gleaming with the pale-yellow plaques of African ivory imported from Egypt and carved by the cunning engravers of the Nile-land, rich with gold from the rivers of Arabia, and glittering with stars of rock-crystal, if they are included in the jeremiads of the wrathful Nahum, must still be recalled with affection by every pious lover of that which is beautiful and which excels in grace and richness of fantasy—the dream and vision of the artist and the craftsman made splendidly real.

THE SEVEN WONDERS. V
THE TEMPLE OF DIANA AT EPHEBUS

BY F. N. PRYCE, M.A.

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Of the Department of Greek and Roman Antiquities, British Museum

THE temple of the Oriental goddess, called by the Greeks the Ephesian Artemis and identified by the Romans with Diana, was ranked by the common consent of antiquity among the Seven Wonders of the World, and not a few writers assign to it the first place on the list. One author says: "I have seen the walls and hanging gardens of old Babylon, the statue of Olympian Jove, the Colossus of Rhodes, the great labour of the lofty Pyramids, and the ancient tomb of Mausolus. But when I beheld the temple at Ephesus towering to the clouds, all these other marvels were eclipsed."

Pausanias, one of the soberest of ancient critics, observes that "it surpasses every structure raised by human hands." There are few buildings concerning which we possess, in some respects, more abundant detail; long accounts have been preserved of its history, of the destructions and conflagrations it suffered at various times, of the rebuildings each time on a scale of greater magnificence, and of the splendour of the finished edifice. It is then singular to find that for many centuries not only had every vestige of the building disappeared from view, but that all trace or tradition of the site on which it stood had been completely lost; and the wildest guesses were made by travellers who searched the ruins of Ephesus in the hope of identifying the remains of the city's crowning architectural glory.

The credit of the rediscovery of the long-lost shrine belongs to an Englishman—J. T. Wood—who in 1863 commenced, on

behalf of the British Museum, a search for the temple. For six years he laboured without success, and the search was on the point of being abandoned when, in the spring of 1869, he hit upon an inscription in a wall proving the latter to be the boundary of the sacred precinct around the temple. The discovery of the actual site now seemed only a work of days; but the precinct proved of enormous extent, and Wood's trial pits and trenches yielded no result until the last day of the year, when he struck a marble pavement, which soon proved to belong to the temple. Wood continued his excavations until 1874, by which time he had dug over the whole site and recovered a large number of fragments of architecture and sculpture which are now in the British Museum. The greater part of them obviously belonged to the last temple—that built in the time of Alexander the Great, at the highest point of Greek art; but some fragments were instantly distinguished as belonging to a much more primitive style and were rightly assigned by Wood to the preceding temple—that built by King Crœsus or to which he contributed.

Beyond these two temples, however, Wood did not go; but literary tradition, as well as general probability, suggested that below the temple of Crœsus still earlier remains were to be found. Accordingly, in 1904 and 1905, a new campaign was undertaken and the site probed to the bottom by Mr. D. G. Hogarth. The excavation proved difficult at the low levels, as springs were opened up and steam pumps had to be continuously in operation. But evidence was recovered for the existence of no less than three earlier temples, lying one above the other. This evidence may perhaps most conveniently be summarised by saying that, on digging down between the walls of the Crœsus temple, a mass of masonry was discovered resting on undisturbed soil at its lowest level; and this, when dissected, proved to have been on two successive occasions enlarged and raised, before the Crœsus temple was finally built over and around it.

From the lower levels was recovered an assortment of over three thousand objects of a very early style of art. By far the larger number are of gold—jewelry, statuettes, etc.—and the greater part of this gold was found actually within the limits of the basis of masonry, where it must have been placed as a "foundation deposit." Even more interesting are a number of



Drawn from the best authorities and specially coloured by Mr. Harold Oakley for "Wonders of the Past."

SOARING IONIC FAÇADE OF THE TEMPLE OF THE EPHESIAN DIANA

In this reconstruction the fifth and last Temple of the Ephesian Artemis is shown, not cold and white as we have grown to think of Greek temples, but glittering with the colours and the metal and the marble of actuality. In it were to be found the most priceless works of art of the age and countless hoards of treasure deposited there for safety by the Asiatic states. Begun about 350 B.C., it was not yet complete when Alexander the Great visited Ephesus in 334; and the Ephesians jealously refused to accept his offer to bear the heavy cost of construction.

ivory statuettes, worked with the most minute detail and with the rarest delicacy of finish. They may have been votive offerings at the shrine; the favourite subjects are women, probably priestesses of the goddess, and wild animals, for Artemis was queen of the beasts of the field. With their Oriental draperies and turbans, they differ widely from the preconceived idea of a Greek statuette; at the time they were made, the craftsmen of Greece, not yet aspiring to individuality in style, were still content humbly to copy the products of the great civilisations of the East.

We may now reconstruct the early history of the site. There is a tradition that originally a small and primitive tree-shrine stood on the marshy ground of the river delta near Ephesus, and that in the seventh century B.C. a stone building was erected over and around it. This we identify with our earliest building, for no stone foundations underlie it, and the objects found within it can be dated round 700 B.C. It is also to be remarked that we cannot be sure whether this structure was really a temple or anything more than a platform and altar. This was destroyed in 660 B.C. by an invasion of the Cimmerians, barbarians who burst into Asia from Europe, and restored in the form of our second temple, which has the appearance of a hasty repair, the masonry being of very inferior character, and which probably also did not last long, although the exact date at which it was replaced by the third temple cannot be stated. In any case, the third temple was certainly a temple, whatever its predecessors may have been; it was built of fine limestone and seems to have had a porch of two columns facing west.

In the course of the sixth century B.C. this third temple appears to have fallen out of repair. The trouble was that the foundations constantly showed a tendency to subside in the marshy ground. The floor was raised at every repair, but all three early temples are now permanently under water-level. The city of Ephesus, then at the height of its power and wealth, determined to rebuild the temple on a scale of unexampled magnificence, and many neighbouring States sent contributions of material and money. In particular we are told of the liberality of Cræsus, King of Lydia, whose great wealth and tragic fate were proverbial in the ancient world, and whose reign (560-546 B.C.) thus indicates the date for this rebuilding; besides other of-

ferings, Crœsus presented most of the columns. The reason why such special honour should be paid to what had hitherto been an unimportant sanctuary is unknown; but the result was that the temple at once took rank as one of the marvels of the age.

In the next century the traveller Herodotus compares this Crœsus temple to the Pyramids. It was of white marble, covered four times the area of its predecessor, and was surrounded by Ionic columns with a portico of eight columns at each end. The columns had a peculiarity of great rarity in Greek architecture: at the base they were encircled with a band of sculpture. Part of such a band has been restored in the British Museum, though it cannot be guaranteed that all the fragments of sculpture which have been inserted really belonged to the same column. It will be observed that by this time the sculptors have liberated themselves from the slavish dependence upon Oriental models we remarked in the case of the ivories of the first temple; their work, though stiff and clumsy, is now something which may be called distinctively Greek. Other remains in the British Museum include two of the Ionic capitals of the columns and some inscribed fragments of base which are generally interpreted to mean, "Dedicated by King Crœsus."

In the year 356 B.C. this temple was wantonly burnt down by one Herostratus, whose object was by his crime to make his name immortal. A reconstruction on a scale of even greater magnificence was at once undertaken. The ladies of Ephesus sold their jewels to provide funds; kings, in emulation of Crœsus, presented columns sculptured by the greatest artists of the age. Alexander the Great, passing through Ephesus on the way to the conquest of Asia, offered to bear the whole cost provided the Ephesians would allow him to inscribe his name upon it as the dedicator. They refused, alleging with diplomatic cunning that it was not meet for one god to make dedications to another. It is probable that by about 323 B.C. the new temple was finished; it is reported to have been 425 feet long, with 127 columns sixty feet high; thirty-six of the columns were sculptured, and the remains of several of these have been brought from Ephesus to the British Museum. In them we see no longer the primitive stiffness of the sculptors employed by Crœsus, but may admire the perfection of a developed art. The best-preserved drum is



WHERE THE GREAT DIANA OF THE EPHESIANS HAD HER FAR-FAMED SHRINE

The modern representative of old Ephesus is the Turkish village of Ayassoluk (a corruption of Hagios Theologos) on a site closer to the Artemision or Temple of Diana than the original city, which lies about a mile to the south-west. It is notable for the remains of a Roman aqueduct, seen in the foreground, while close to the fortress which crowns the hill are the scanty ruins of the once great Byzantine cathedral of S. John Theologos, which was largely built of material from the mighty temple.



THEATRE AND STREET IN THE NOW DESERTED CITY OF EPHEBUS

On the site of Ephesus itself are many remains, but these are almost entirely of the Graeco-Roman period, the Hellenistic and still more the earlier Ionian cities being obscured. In this photograph may be seen the theatre (restored subsequently to the disturbance occasioned by the visit of S. Paul) and a broad street which once ran from it to the port, now quite silted up. On the right of this street, in the distance, is a pile of ruins once taken for the Artemision, actually the Baths of Constantine.



DRUMS OF COLUMNS THAT WERE OVER 60 FEET HIGH: TEMPLE OF DIANA AT EPHEBUS

Five successive foundations in all have been traced on the site of the Temple of Diana, but the first two may have been little more than a platform, sacred tree, altar, and image. The third temple, however, was certainly a temple in the accepted sense, and was perhaps that constructed by Chersiphron and Metagenes, in which Ionic architecture was first employed. The fourth, designed by Dinocrates, was the temple to which Croesus contributed; and the fifth, begun about 350 B.C., was the Wonder of the World. One hundred and twenty-seven columns in the Ionic style, of which eight at either end formed imposing façades, are said to have supported the structure; their height, 60 feet, seems to have caused universal wonder. The extensive grounds, or "temenos," in which the temple stood were regarded as an inviolable asylum; and it was the practice of royal benefactors to enlarge this area, even so as to include at one time part of the town itself.



The Museum, Naples. Photo by Ewing Galloway.

ARTEMIS, OR DIANA, IN ASIATIC AND HELLENIC GUISE

Diana was the name by which the Romans knew the goddess Artemis; but the many-breasted Artemis of Ephesus was a very different personage from the chaste huntress of the European Greeks. She was, in fact, the great mother-goddess of the Asiatics, who appears in many guises, and was only gradually, it seems, identified with the deity brought with them by the Ionian colonists. This photograph shows the contrast between the weird figure of Ephesian art decked with animal heads on the left, with feet, hands and face of bronze, and a Græco-Roman Diana of the normal type on the right.

usually taken to represent the story of Alcestis, who is to be released from the Underworld and restored to light.

Thus restored, the temple appears to have stood for some centuries, growing yearly in wealth and reputation. Apart from the beauty of its architecture and the variety of its sculptured decorations, it took precedence of all other temples in regard to the costliness and beauty of its contents. "The Temple of Artemis," says one author, "is a common treasury for all Asia." "All nations," says another, "deposit their riches in the temple." Xenophon, after the Retreat of the Ten Thousand, deposited his wealth with the temple priests. But the amount of specie within the vaults shrinks into insignificance in comparison with the value and interest of the treasures of art collected in the temple. Pliny tells us that the statues alone would need many volumes to describe: "It is full of sculpture, almost all by Praxiteles." Some of the most famous paintings of antiquity hung here, including the famous equestrian portrait of Alexander the Great by Apelles, for which the painter received twenty talents of gold. Of this portrait it is said that Alexander did not at first praise it as it deserved. But his horse, on coming opposite, began to neigh at the horse in the painting as if it also were alive. "King," said Apelles, "your horse is a better judge of painting than you are."

Various records of minor damage by earthquake or fire are preserved, but the temple does not appear to have needed extensive repair until the reign of the Roman Emperor Gallienus (A.D. 260-268), when it was plundered and burnt by the Goths. It is very doubtful whether it ever was restored after this catastrophe; there are signs that the worship of Artemis had been losing ground for some years previously. In the following century it certainly was in ruins, a convenient quarry from which building material might be obtained. Later a church was built upon it, but this was destroyed by a change in the course of the river, which covered the scanty remains of the temple with a layer of ooze, obliterating all traces of the site until fifty years ago.

THE GREAT MONUMENTS. V
THE WONDER OF THE OBELISK
BY R. ENGELBACH

THE WONDER OF THE OBELISK

By R. ENGELBACH

Chief Inspector of Antiquities, Upper Egypt

AMONG the wonders of ancient times which have roused the curiosity of mankind for many generations, the obelisk stands almost first. Though the Pyramids make us marvel at the enormous expenditure of labour which they must have entailed, to say nothing of the incredible accuracy of their workmanship, yet the obelisk, as an engineering tour de force, is a greater puzzle than they, and has been the subject of more speculations—some ridiculous in the extreme—than any problem of antiquity. The question is: How did the ancient Egyptians, almost surely ignorant of the capstan, the winch, and the system of pulleys or block-and-tackle, extract these obelisks from the granite quarries at Assuan (Aswan), transport them for hundreds of miles over land and water, and erect them, even in the middle of existing buildings? We know of obelisks of more than 500 tons which were actually erected, and, if we are to believe the Egyptian and Roman records, some must have weighed over 1,000 tons. We can appreciate the difficulty of such feats the more when we remember that modern removals of obelisks, none of which exceeds 340 tons, always tried the skill of the engineers to the utmost.

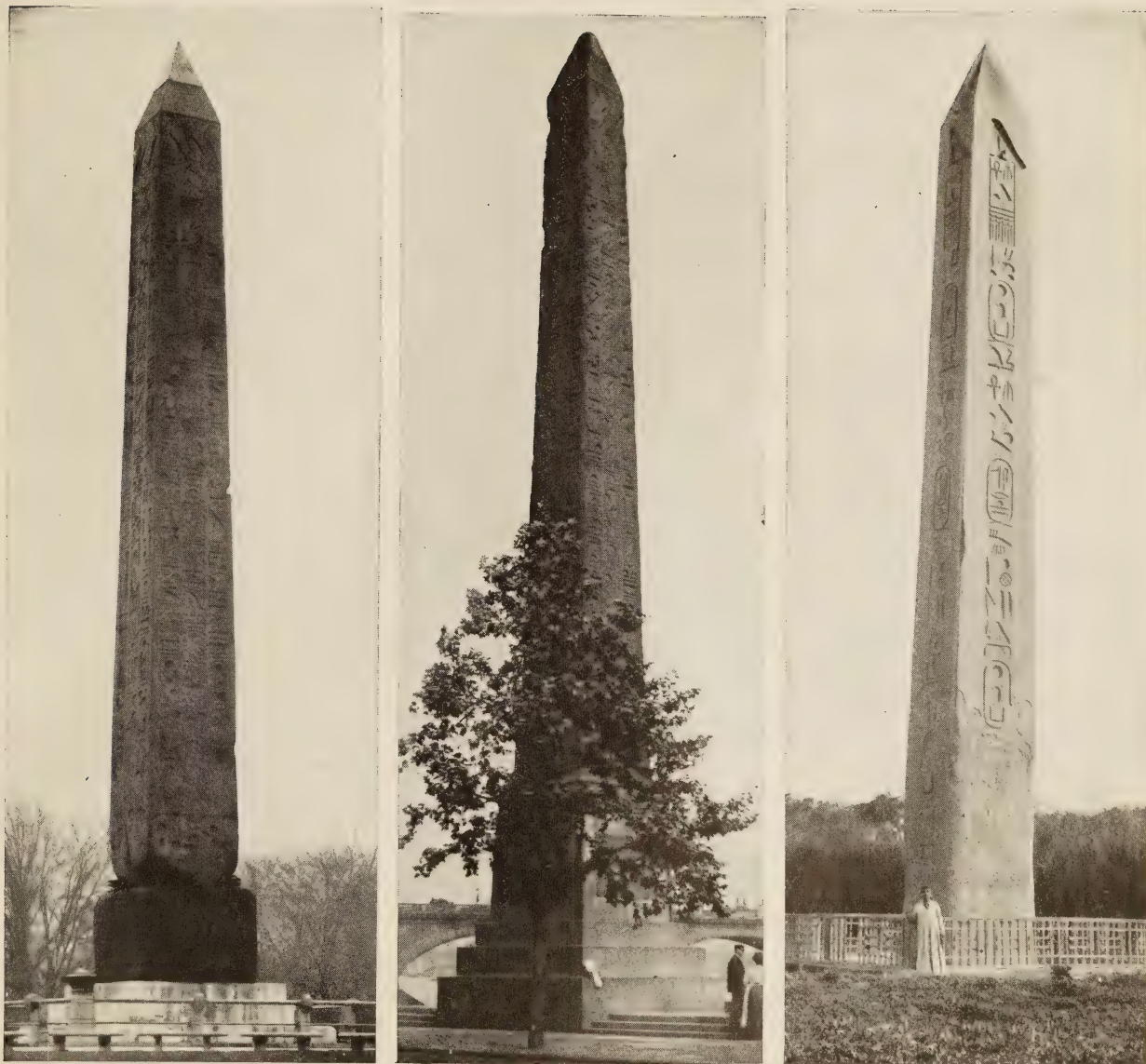
As to the *meaning* of the obelisk, strictly speaking I do not think it has a meaning. As we can trace the pyramid back to the funeral-cairn, so I believe we can see in the huge flagstaffs, which always stood before the pylons, the germ-idea of the obelisk. Once a high, thin stone monument is desired, the obelisk is the

natural outcome, it being a matter of pride that the monument should be of one block. Let us consider the alternatives: if it were made as thin as a pole, it would not be stiff enough, since granite has no flexibility; if it had to taper from the width of the base to nothing at the top, its shape would have to be that of a dunce's cap; if it were of one breadth throughout it would look top-heavy; if it had not a cap of some sort it would look unfinished, and, finally, if it were of round cross-section it would be almost impossibly difficult to shape or handle, besides being less convenient for inscribing.

No known obelisk dates further back than the twelfth dynasty, that is to about 1950 B.C., when we have one at Mataria of 67 feet high and weighing 120 tons. The 40-foot monolith of the same date at Begîg, in the Fayûm, can hardly be called an obelisk, as it is of unique shape and never stood before a pylon at all; it is rather a glorified stele. Records of the existence of obelisks extended back to the Old Kingdom, some thousand years earlier, but we know nothing of their size or form.

In ancient times the tops of the obelisks were covered with gold, electrum, or copper caps, to make them shine in the sunlight. According to 'Abd El-Latîf, the Mataria obelisks still retained their copper caps in A.D. 1200. Nearly all the obelisks in Rome, incongruously enough, have been decorated with brazen crosses.

The number of known obelisks is considerable, though there are to-day more obelisks outside Egypt than in it. Though Karnak alone had at least thirteen large obelisks, there are now but three, including one only about 12 feet high, and one which may fall at any time (see illustration facing page 531). These, together with the Luxor and Mataria obelisks, are all that Egypt now possesses, while in Rome there are more than a dozen of various sizes; Constantinople has two, and England, America, and France have one each. Earthquakes, soil-subsidence, and foreign conquerors have indeed taken a terrible toll. As far back as the time of Ashurbanipal, who took a couple of obelisks to Nineveh (about 690 B.C.), it has been the custom of the foreign controllers of Egypt to take away obelisks as souvenirs, and it is a striking fact that they were able, not only to remove, but to erect them. Though we have no data on the size of those



Photos by Metropolitan Museum of Art, New York City, and Donald McLeish

THREE OF THE ANCIENT OBELISKS; IN EGYPT AND IN FOREIGN CAPITALS

Left: One of "Cleopatra's Needles," set up by Thothmes III. (c. 1500 B.C.) at Heliopolis, further inscribed by Rameses II. (c. 1250 B.C.), removed to Alexandria in 23 B.C., and thence to New York, where it now stands. It is 67 feet 2 inches high without the pedestal. Centre: Fellow of that on the left, 68 feet 5 inches high, removed in 1877 to the Thames Embankment; obelisks were usually set up in pairs. Right: Obelisk of Senusret I. of the twelfth dynasty (c. 1980 B.C.), still standing on its original emplacement near Heliopolis—it is the earliest known to us.



Photo by Gaddis & Seif.

OBELISK OF RAMESES II. AT LUXOR

From Roman times obelisks have been prized as souvenirs, and Paris now owns the one corresponding to the subject of this illustration. The pair were erected by Rameses II. before the pylons of Luxor Temple, and the one remaining is about 88 feet high. Note the unimpaired delicacy of its hieroglyphs, each a separate work of art.



Photo by Gaddis & Seif.

HEWN FOR HATSHEPSUT AND HER FATHER

On the left, before the Osiris Court of the Great Temple at Karnak is the leaning obelisk of Thothmes I., with the pedestal of its companion beyond; like "Cleopatra's Needle" it was employed by Rameses II. for his inscriptions. To the right, behind the pylon, is the obelisk of Queen Hatshepsut, which also formed one of a pair.

sent to Nineveh, we know that the London and New York obelisks, each of which is claimed as *the* Cleopatra's Needle, had been moved in Roman times from Heliopolis to Alexandria, and one at least had been erected there. These weigh only about 200 tons each, but some obelisks removed to Rome in ancient times weighed as much as 340 tons. With our hydraulic jacks, steel towers, winches, and all the paraphernalia of modern engineering, the removal and erection of an obelisk has been the most difficult task imaginable, and has caused world-wide interest, yet among all the literature that has come down to us from Egyptian and Roman sources, there is nothing which throws any real light on how they accomplished such feats.

As an example of what classical authors have to say on this subject, we can turn to Pliny, book xxxvi., chap. 14, where he tells us that the transport of an obelisk under King Ptolemy Philadelphus was done by digging a canal from the Nile to pass under the obelisk, which was lying down, and unballasting two large barges below it, thus letting them take the weight. This may have been true, but it was not the method used by the Egyptians. As to the erection under a king he calls Rhamsesis, he cites a typical dragoman's tale, omitting all mechanical details, but saying how the king, fearing that the machinery used was not strong enough, had his own son tied to the summit to make the workmen more careful!

At Assuan there is a huge obelisk, 137 feet long, which would have weighed 1,170 tons, lying abandoned, and only partly detached from the surrounding rock. The complete clearance of this monument in 1922 has given us several definite facts about the ancient engineering. It appears that the top layers of rock were removed by pouring water on the granite after it had been strongly heated by papyrus fires. This heating and cooling method is used in the Indian granite quarries at the present day. Having reached a level where the granite appeared to be free from flaws for the desired length, the surface was rendered flat by dressing with large balls of dolerite—a rock akin to diorite—which occur naturally in some desert valleys in Egypt. These balls weigh from 9 to 15 pounds. The outline of the obelisk was next drawn on the flat surface, and a separating trench made around it. A surprising result of the study of the Assuan obelisk

is that neither chisels nor wedges were used in detaching it from the quarry; the dolerite balls were the only tools employed. In other words, the obelisk was not cut out but *bashed* out. Whether the balls were attached to rammers and worked by more than one man is a disputable point, but I consider it very probable. Not only the sides, but the under surface of the obelisk, were detached by bashing. For an obelisk of this size, the detaching would take less than a year. In the quarry we can see how the men were arranged and even how the foremen measured up the work done, but a discussion of all the details of the quarrying is outside the range of this article.

Having detached the obelisk from the quarry, levers and ropes were called into use, and, with the aid of some 5,000 men, it was rolled down from its bed to the spot where a sledge (known from the Deir el-Bahri sculptures) was buried. The sledge was, of course, already on its rollers and track balks. Having dug the sledge and track clear of sand, the obelisk was hauled down to the bank of the Nile. Where there was any unevenness in the ground, an embankment was made, and we can see to-day, in the quarries, enormous embankments along which large blocks were transported in ancient times. At the river bank a very large boat was in readiness, covered over by an earth or sand embankment, and the obelisk was pulled over it, and by removing the sand from under the obelisk, it was made to descend gradually into the boat, which was then dug clear and the journey by water begun. The Egyptians were skilful boat-builders, and we have records of boats over 30 yards long. At its destination, probably at high Nile, the boat was packed rigid, the sides removed, and the journey continued on a prepared track to the temple.

As to the erection of obelisks, it is here that speculation has run riot, and perfectly amazing statements have been made on the subject by engineers, architects, archæologists, and by that perpetual thorn in the flesh of the serious student, the reckless exponent of the occult.

Two theories stand out as being more or less reasonable, though neither is very convincing. One is that the edge of the obelisk was placed so that it engaged in the narrow notch which is found on nearly every obelisk-pedestal, and that it was gradu-



Photo by Gaddis & Seif.

OBELISKS CARVED UPON THE WALLS OF THE TEMPLE OF LUXOR

A bas-relief from the Luxor Temple gives a contemporary picture of one of the pylons of that building, and shows the disposition before it of the obelisks, flagstaffs, and colossi. In this instance there are four flagstaffs; the sloping side of the pylon is always recessed to receive the foot, and towards the top may be seen the metal clamps which held them in position. The figure to the right is Amenherkhepeshef, one of the hundred and eleven sons of Rameses II.



Photo by Gaddis & Seif.

THOTHMES III. DEDICATES TWO OBELISKS IN THE TEMPLE OF AMMON-RA AT KARNAK

Egyptian obelisks, huge, tapering, square-sectioned monuments of red Assuan granite, were erected as a special gift to the god of the temple. The majority date between the twelfth and the nineteenth dynasties. On them were engraved the royal titles and the fact of the dedication. This relief from beside the sanctuary of the great temple at Karnak, shows Thothmes (Tuthmôsis) III. offering obelisks, flagstaves and booty from his Palestine campaigns to the god Amen-Rê (Ammon-Ra). The tops of all obelisks, called "pyramidions," appear to have been capped with gold, electrum, or copper.

ally levered up, the earth being banked behind the levers at each heave, until the obelisk was leaning against an earth bank sufficiently steep to permit it to be pulled into a vertical position. The 35-ton obelisk at Seringapatam was actually raised in this way. The reasons against this method having been used by the ancient Egyptians are (1) that they could introduce obelisks into existing courts whose walls were of less length than that of the obelisk; (2) that many obelisks are so close to the pylons that there would hardly have been room enough for the huge levers which would have been required, and (3) that the pedestal notch—an essential for this method—was never used in the case of the standing obelisk of Queen Hatshepsut (Hatshepsôwet) at Karnak, as it has come down askew on its pedestal and missed the notch altogether. There are other mechanical objections when dealing with large obelisks.

The other theory is that the obelisk was rolled up a long, high embankment until it nearly overhung the end, and earth was removed from below the obelisk until it was made to settle down slowly on to its pedestal, leaning against the end of the embankment, from whence it could be pulled upright. The great objection to this method is that it is extremely risky; it can well be realised what a delicate process it would be to undercut below a 500-ton obelisk, some 60 feet above the ground, to make it settle down on to a pedestal 15 feet square! The pulling upright would be even more risky, as modern removals have shown that the strongest headropes are very unreliable for checking the momentum of such masses. I more than doubt if even the ancient Egyptians would have dared to use this method close to any existing building, knowing that, if the obelisk fell forwards or sideways, it would spread red ruin around it; the use of an embankment is, however, very likely as, in an ancient papyrus, one scribe sets another a problem on calculating the number of bricks for one nearly a quarter of a mile long and 90 feet high—sufficient for erecting the largest obelisk of which we have any knowledge.

A suggested method, which explains and meets all observed facts, is that the obelisk was not let over the edge of the embankment, but down a pit in the end of it, the pit being of square section, wide at the top and tapering down to the size of the

pedestal, with a gentle curve leading from the side from which the obelisk was to enter on to the surface of the embankment. In the illustration facing page 535 is a section through the length of such an embankment, showing the positions of the obelisk at various stages of its descent into the pit or funnel. The gradual lowering of the obelisk down the funnel is done by filling it with sand, which was removed through galleries leading from the bottom of the funnel to the outside of the embankment. From experiments on a scale-model, it was found that there was no tendency for the obelisk to jam against the further wall of the funnel if the sand was removed from the side under the obelisk. A second gallery, on the other side, was, however, necessary in order to clean the surface of the pedestal before the obelisk was pulled upright. The purpose of the pedestal-notch is twofold; it takes the weight of the obelisk on its inner edge instead of allowing the obelisk to come down on its own edge, thus checking a tendency to twist on the part of the obelisk when being pulled upright. Oscillation after reaching a vertical position could have been avoided by putting a cushion of, say, brushwood between the obelisk and the further wall of the funnel. The sledge is removed in halves before the obelisk descends; this presents no mechanical difficulty at all.

It will be seen that, in this method, the obelisk must be stiff enough to support its own weight when pivoting about its centre. It has been doubted whether the known obelisks could do so. If one takes the trouble to work out the problem, it is found that in the most extreme case the strain set up would not exceed a safety-factor of two-thirds.

It may not be out of place to give a very brief account of how the removals in modern times of the Vatican, the Paris, the New York, and the London obelisks were performed.

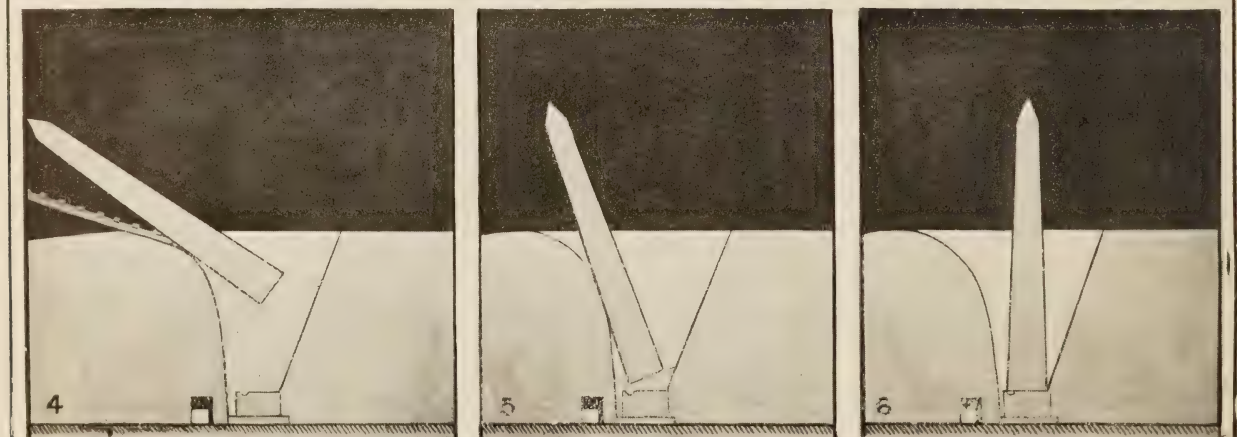
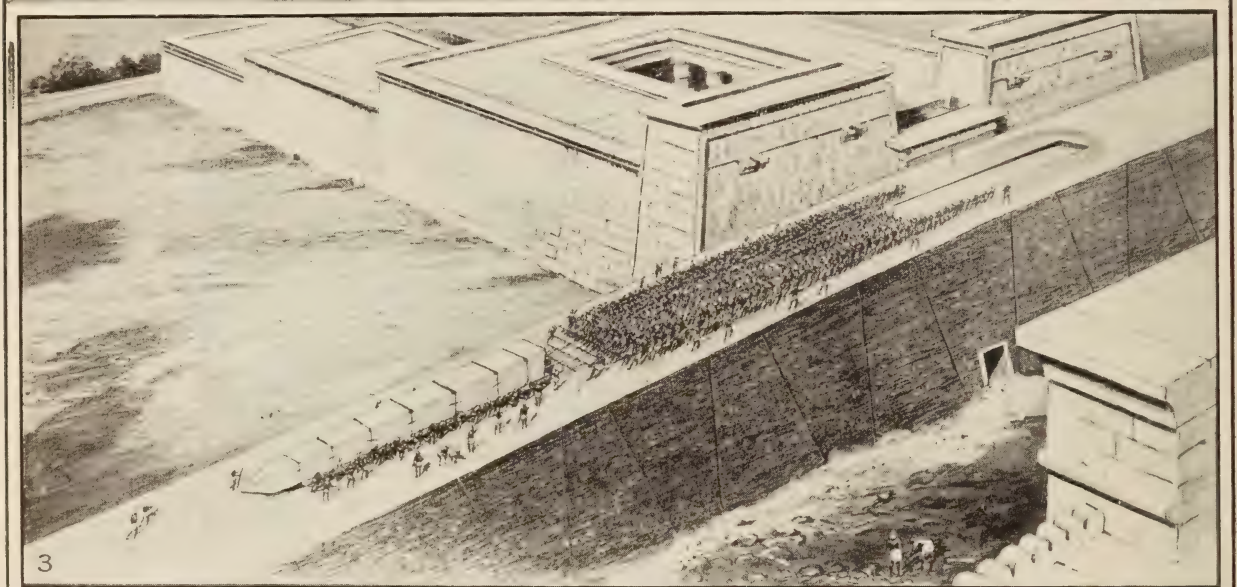
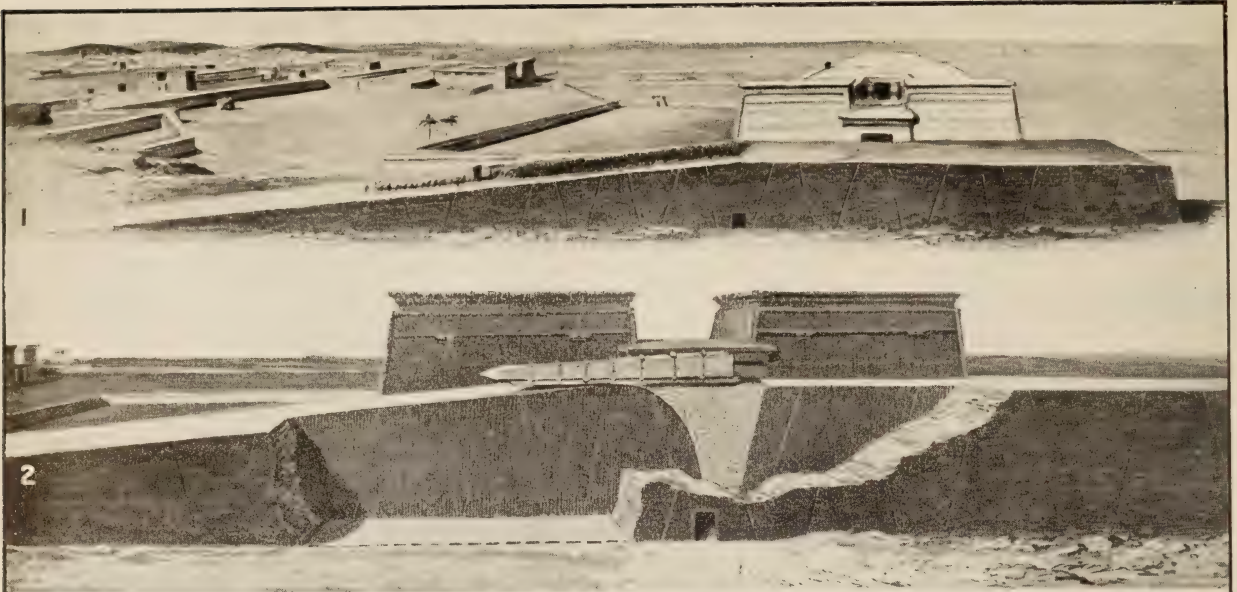
The Vatican obelisk was removed by Domenico Fantana, in 1585, from the Circus of Nero in Rome to the Piazza di San Pietro. The method used was the "heroic" one of bodily lifting it by block-and-tackles actuated by a large number of capstans. A gigantic tower of wood, known as "Fontana's Castle," was erected above the obelisk, the struts being a metre square in section. From the cross-beams of the tower, pairs of block-and-tackles were attached at four points along the obelisk. It was



Photo by A. M. MacGillivray.

UNFINISHED OBELISK IN THE GRANITE QUARRIES AT ASSUAN

In the quarries at Syene (Assuan), whence came the rose-pink granite of the obelisks, still lies one unfinished shaft which, had it been erected, would have been the largest of all. It measures 137 feet and would have weighed 1,170 tons; but there is a flaw in the granite near its centre which explains its abandonment before completion.



HOW WERE THE OBELISKS RAISED WITHIN COURTS LESS THAN THEMSELVES IN LENGTH?

Mighty as was the work of hewing an obelisk from its bed, the unfinished block at Assuan teaches something of the methods employed. More mysterious is the raising of these monuments. One of the most likely theories is illustrated above. A huge brick ramp was constructed, with a rectangular hole near the top whose sides sloped gently towards the waiting pedestal at the bottom; this hole having been filled with sand, the obelisk was dragged up the ramp (1 and 3) until the sand supported its base (2); whereupon, the sand being withdrawn through prepared passages, the base sank on to the pedestal (4, 5 and 6), from which position the block might be pulled upright. A notch in the pedestal in which the base engaged prevented slipping.

first raised sufficiently high to enable a cradle, or platform on rollers, to be introduced beneath it, and it was then lowered on to the cradle and pulled to its new site. The re-erection was done in exactly the reverse way to the lowering. The weight of the obelisk was calculated to be 331 tons.

The Paris obelisk was removed by Lebas, in 1839, from its original position before the pylon of Luxor Temple, where it formed, with the existing obelisk, the only pair left in situ. The lowering and raising were performed by means of a huge compound derrick, consisting of five supporting members on each side of the obelisk. Power was supplied by systems of pulleys worked by capstans. It was lowered on to a cradle which ran on a greased way down to the Nile bank, some 200 yards distant. Here it was introduced into a large pontoon-raft from which the prow had been temporarily removed. The raft was towed to France, where the transport and erection were carried out by the same methods. It now stands in the Place de la Concorde, being 75 feet high and weighing 227 tons.

The New York obelisk, which originally formed a pair with the London obelisk at Heliopolis, had already once been removed in Roman times from there to Alexandria and had been erected close to the shore. The lowering was done by fitting it at its centre of gravity with a pair of enormous steel trunnions, supported by a steel tower on each side. The point was lowered (or rather it crashed) on to a tower made of large barks of wood laid criss-cross. A similar wooden tower was then constructed beneath the butt-end, and the tower and trunnions were removed. Each end of the obelisk was raised in turn by hydraulic rams, a course of barks taken away, and the end of the obelisk lowered to the course below, the process being continued until it reached the ground. It was next floated in a wooden caisson to the dock and introduced into a steamship called the *Dessouk* by opening a port in her bows. At the American end it was placed on a railway and pulled to Central Park, where the trunnions and towers were again used for erecting it. For some of the short moves, the obelisk was rolled on cannon-balls running in channel-irons.

The London obelisk was towed to England in 1877, enclosed in a steel shell, fitted, like a ship, with deck and masts. On its

journey it was very nearly lost in a storm in the Bay of Biscay. It was raised on much the same principle as the New York obelisk, but instead of the trunnions, knife-edged steel supports were used bearing on a huge wooden scaffolding. Its last adventure was a wound from a German air-bomb.

THE MASTER BUILDERS. IV
THE STRANGE FORTS OF ARAN
BY E. W. LYNAM

THE STRANGE FORTS OF ARAN

BY E. W. LYNAM

Assistant in the British Museum

With Photos from "Notes on Irish Architecture," by the Earl of Dunraven

THE three Aran islands lie in the Atlantic on the western rim of the old known world, six miles from the nearest point on the coast of Galway. In the ancient traditions of the people of the mainland they figure as the home of giants and workers in magic; in later legend they are identified with the enchanted western isles of Hy Brasil and Tir Nan Oge.

Two of the islands are quite small, with populations of less than 500. The third, Inismor (Great Island), which is nine miles long by one mile and a half broad, rises in high, precipitous cliffs along the Atlantic side, but is low, with many little coves, on the landward, or north-east shore. Sheets of grey limestone, broken by hundreds of crannies, warm hollows, and little fields, cover half the extent of the islands. Not a single tree occurs to break the quiet, lonely slopes of grey and green, or to shut out the wide encircling blue of sky and sea: but many unusual plants, such as maidenhair fern and spring gentian, grow profusely in the rock-crannies and fields. The Gulf Stream, which flows close to these islands, renders the climate exceptionally mild. The inhabitants, some 2,500 souls in all, are a handsome, hardy race, whose fair skin, blue-grey eyes, and dark hair and eyebrows seem to indicate an early mingling of fair and dark stocks in their ancestry. Very conservative and preserving many ancient customs and beliefs, they still wear the "pampootie" shoe, and use the "coracle" boat described by Himilco, the Phœnician traveller, 2,400 years ago.

These ocean-girt rocks, with their dreamy atmosphere and primitive customs, are crowded, even beyond expectation, with ancient stone monuments of the most varied types and dates. Among these a group of great stone forts stands out conspicuously. Four of them are on Inismor. Dun Aengusa (Fort of Aengus), the largest, was evidently the residence and walled citadel of a ruler. It stands on the edge of a beetling cliff, 300 feet above the Atlantic, on the south side of the island, and overlooks much of the island and a wide expanse of sea. Going outwards from the centre, the ruins consist of a strong oval enclosure or citadel, now measuring 150 feet by 130 feet internally, an outer wall defended by an abattis of large stones, and a second outer wall.

Although part of the citadel and of an old outer wall have crumbled with the cliff into the sea, the ruins still cover over sixteen acres. The present outer walls and the abattis never formed complete rings, but ended, as now, on the cliff edge. The walls vary from 7 feet in the outer, to 13 feet thick in the inner, and still rise in places to 18 feet high. The citadel is built on a natural platform artificially scarped, and overlooks the outer courts and walls. Terraces, which are reached by flights of steps from the interior, run along the tops of the walls. The abattis is made of pointed stones, placed on end close together, and projecting 3 feet to 4 feet above ground. It forms an effectual barrier, 30 feet to 80 feet deep.

The wooden houses and huts which once crowded the citadel and courts, as well as the booths, galleries, and light structures which were the flesh of the great stone skeleton that remains, have vanished with the men who built them and the lords who owned them. Some stone foundations, as well as chambers which are said to have existed in the walls, disappeared in the nineteenth century. An oblong raised table-stone within the citadel was probably connected with the inauguration of kings. Like the other forts, Dun Aengusa is built of blocks of local limestone, unworked and unmortared, laid in courses of "headers." The stones are usually large, from 4 feet to as much as 7 feet long.

Dun Oghil (Fort of the Oak Grove) and Dun Onacht (Fort of the Descendants of Owen) stand on commanding ridges in the interior of Inismor, three and two miles respectively from Dun



DUN AENGUSA FRONTING THE ATLANTIC ON A STARK HEADLAND OF INISMOR

This photograph, taken on a day of windless calm, gives idea enough of the grey solitude of Dun Aengusa, Fort of Aengus; no tree, hardly a blade of grass in sight, nothing but the scarped grey rock, the misty levels of the sea, and the distant cliffs of Clare; no sound but the sigh of the swell between the rock-faces and the mournful cry of gulls. What then when the wind quickens and sea and sky go grey and the long Atlantic rollers smoke and thunder far below?



DUN CONOR OR DUN CONCHOBHAIR, "THE NOBLEST FORT OF ALL," ON THE—

Situated in an imposing position on the crest of the island's central hill 250 feet above the sea, it consists of an oval-shaped fort measuring 221 feet by 115 feet, protected for about half its circumference, where the cliff is not steep, by an outer wall. Its walls, still standing nearly 20 feet high in places, are double, sometimes triple, attaining thereby a thickness as great as $18\frac{1}{2}$ feet. A feature unique among the forts of Aran



GREY STONES OF DUBH CATHAIR, HEADLAND FORT OF INISMOR

Dubh Cathair, the Black Fort ("cathair" is a later word for fort than "dun"), stands on Inismor, and is the only one of its kind in the group, consisting as it does of a single wall between the precipitous cliffs of a headland projecting into the sea. The wall is 220 feet long, and the space which it encloses measures 354 feet from wall to sea. The masonry is laid in "headers" as at Dun Aengusa, but the stones are smallish and neither so well shaped nor so well laid, which may point to its being the oldest of the series.



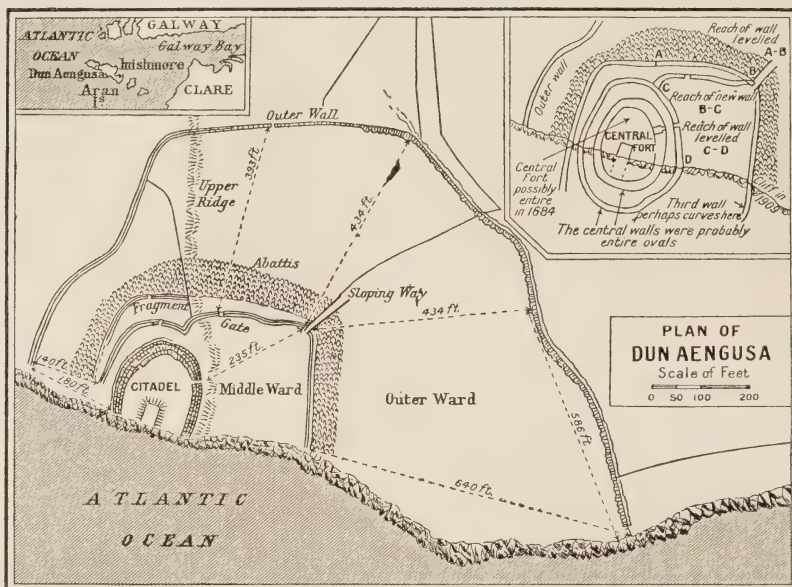
—HILL-CREST OF INISMEADHON, MIDMOST OF THE THREE ARAN ISLANDS

is a kind of outwork projecting on the north-east side, a rough rectangle of 51 feet by 70 feet. Legend states that this fort was built by Conor or Concraid, brother of Aengus and son of the Firbolg chieftain of Umor, who fled with his kindred for protection to these islands of the utmost west. More probably the Aran forts were the last piratic strongholds of a pre-Gaelic race.



REMAINS OF THE CIRCULAR HILL-FORTRESS ON DUN ONACHT, INISMOR

Built on a steep knoll which rises from the rocky plain of Inismor, Dun Onacht is roughly circular, measuring 93 feet by 97 feet; the wall, which appears to be single and is in places nearly 15 feet thick, is remarkably well laid and consists of even larger blocks than is the case at Dun Aengusa. A platform runs round the wall within the fort, and was once approached by four flights of steps. At present the wall is nowhere more than 16 feet in height. The doorway, much ruined, is on the eastern side.



After plans by T. J. Westropp, M.A.

Aengusa. They would seem to have been subsidiary courts and outposts to the great fort, as well as centres of considerable settlements. On the hillside to the north of Dun Oghil, the ruins of four lesser forts and of some forty primitive stone huts are still preserved. Dun Oghil has an oval citadel, measuring 91 feet by 75 feet in the interior, and an outer wall. The inner wall, 19 feet thick and still 15 feet high, is well built of large stones, beautifully laid, and gives, more than any of the forts, an impression of immense strength and immense antiquity. Dun Onacht, though small, rivals Dun Oghil in the excellence of its masonry and the size of the stones used. Its single wall is 14 feet thick and encloses a circular space 90 feet in diameter. Both forts have the same system of wall-terraces and flights of steps as Dun Aengusa, and there are foundations of stone huts in both.

Dun Conor (Conor's or Concraid's Fort), which, though not the largest, has been called "the noblest of all," crowns the central hill of Inismeadhon (Middle Island). It is built on a natural rock-platform 20 feet high, and is visible for miles out at sea. The fort is oval, enclosing a space 221 feet long by 115 feet broad. Its wall is the most massive of all, being $18\frac{1}{2}$ feet thick and rising even now 20 feet high above the platform. It is terraced with steps. From the gate of the fort one descends into a wide, strongly-walled court, and thence through a sort of circular guard-house with narrow doorways, out to the open hillside. While here also all the ancient wooden buildings have disappeared, the foundations of several stone huts and chambers, round and oblong, survive within the citadel.

Dubh Cathair (Black Fort) on Inismor differs from the others in some respects, particularly in being a promontory fort—i.e., it depends on cliffs for protection on three sides, and has only one wall across the landward neck. It is in a perilous and most striking position on a precipitous headland, 400 feet high, which is separated from the adjacent cliffs by great chasms, through which the sea booms continually. The wall, 220 feet long, is built of smallish stones loosely heaped, and is 16 feet to 18 feet thick and 20 feet high. It is terraced, a loose abattis protects it, and there are remains of hut foundations inside and outside.

Massive though these structures are—and, if they belong,

to the Bronze Age, truly wonderful for their time and place—they were more in the nature of fortified homesteads than of regular forts. In case of need, however, the Aran forts could shelter 3,000 persons. That they were not intended to stand a siege is evident from the fact that only one of them has a spring of water within or near it. This peculiarity has been noticed in some early forts in Greece. The entrances of all the forts open towards the landing-places on the north-east shores, but this does not necessarily imply that an invader was expected. On the other hand, nearly all the forts were certainly improved and extended by their ancient inhabitants at different times. The alterations at Dun Aengusa, which included the building of the outermost wall and the rebuilding of part of the middle wall, are calculated to have lasted over a period of some two hundred years.

Early forts occur in many parts of Europe, from England, Brittany, and Sweden down to Thessaly; and they were in use from neolithic right down to mediæval times. But it is hardly too much to say of the whole group of Aran forts what has been said of Dun Aengusa, "It has become, with most antiquaries, the type and symbol of countless similar structures, all subordinate to it in interest."

While the lack of conclusive "finds" in the forts has greatly hampered archæologists, the most recent investigators are inclined to assign them to the late Bronze Age. In that period (c. 1800-400 B.C. in Ireland) Ireland held a position of some importance in North Europe, partly owing to her possession of gold and copper. Irish bronze objects show great beauty and some originality of workmanship, and her gold lunulæ and sun-disks, which were associated with sun-worship, found their way even to Germany and Denmark, and were probably bartered for Cornish tin.

The earliest literary reference to the forts appears in an eleventh century Irish poem, written from earlier, lost records. It is related that the sons of Umor, of the Firbolg race, were expelled from Ireland by Milesian invaders. After long wanderings in the western isles of Scotland and possibly among the Picts of Scotland, they returned, a few hundred strong, to Ireland about the beginning of our era. They were allowed to settle near Tara, surety for their good conduct having been given by



Photo by Dr. G. Fogerty, R.N.

WITH WALLS STILL 18 FEET HIGH: THE CENTRAL CITADEL OF DUN AENGUSA

This photograph is a view of Dun Aengusa from the north; the reader should refer to the plan found on another page and imagine himself standing not far from the words "Upper Ridge" and looking towards the citadel. Behind him will be the outer wall, and in front a kind of abattis of rough blocks set on end and leaning slightly outwards. Between the abattis and the fort in the background will be seen two lines of wall, somewhat complicated in arrangement owing to alterations in the distant past.



WEATHER-WORN MASONRY OF HOARY DUN OGHIL, ONE OF THE ARAN—

Dun Oghil or Dun Eochla, like Dun Onacht, is an inland fort and stands on the highest eminence of Inismor, commanding the northern coast even as Dun Aengusa the southern. The stones of its walls are laid horizontally, and not in headers as those of the southern fort; they are also remarkably big and beautifully fitted together. The arrangement of the fort is that of two oval enclosures, not quite concentric, of which the larger measures about 270 by 200 feet, and the inner 91 by 75 feet. The outer wall, now rather ruinous and nowhere more than 12 feet high, is single; but the wall of the inner enclosure is



Photos from "Notes on Irish Architecture," by the Earl of Dunraven.

STORM-SWEPT DUN AENGUSA ON THE ISLE OF INISMOR, A MEMORIAL—

Although the central citadel of Dun Aengusa is not so large as that of Dun Conor, the whole area covered by its complex of outer walls is the most extensive on the island. The first thing to meet the eye is this central fort with its 13-foot thick wall still towering to a height of 18 feet in places; but it is at once noticeable that the circuit is not oval but forms a crescent, with its extremities abutting on the cliff. While it is possible that this was the original arrangement, it is usually assumed that the cliff has collapsed owing to the action of the sea, thereby destroying half the oval. If this is so, it is probable



—FORTS THAT MAY HAVE SHELTERED PIRATE CHIEFTAINS IN DAYS GONE BY

triple and 15 feet high, with a total thickness at the base of nearly 20 feet in parts. Of this wall, however, the inmost portion is some 6 feet lower than the other two, thereby forming a sort of platform with a parapet, negotiated by flights of steps at three points—one leading from the ground to the platform, one from the platform to the summit, and one from the ground to the summit; these have now largely disappeared.



—OF RAIDS AND FORAYS AND MYTHIC WARS FROM THE UNRECORDED PAST

that the inner of the three outer walls also formed a closed curve, but the outer of the three certainly ended on the cliff-edge; as regards the centre one, uncertainty prevails. On the outside of this latter wall there is an abattis of upright stones, so that the outermost girdle-wall was obviously added at a later date.

the powerful body called the Red Branch warriors. The king, however, exacted such a heavy tribute from them that they fled westwards to Connacht, where the famous Queen Maev granted them lands round Galway Bay and Clew Bay. "They settled westward at Dun Aengusa" and "Concraid obtained his just portion at Inismeadhon." But when they fled the king appealed to their guarantors, the four sons of Aengus of Dun Aengusa were compelled to fight four of the greatest champions of the Red Branch, and the four Firbolgs were slain. Soon afterwards, the story goes, their settlements were broken up.

The date, the names, and most of the incidents of this story may be rejected as more than doubtful. Early Irish history was written by Gaels for the glorification of Gaels, but for the confusion of later generations. In plain language, the Firbolgs and Milesians of early Irish literature were, respectively, the pre-Gaelic or Bronze Age inhabitants of the country, and their Gaelic conquerors. The Gaels, a branch of the tall, fair Celtic race, reached Ireland about 400 B.C., probably by the north. They were armed with iron weapons, and brought that metal into general use in Ireland. Though comparatively few in numbers, they established a military ascendancy over all the north and over portions of the east and west of Ireland. Their language and to some extent their culture were accepted by the whole country before they became merged, in Christian times, in the earlier and more numerous population.

Whether the Bronze Age inhabitants of Ireland were dark-complexioned Iberians, mysterious Picts, or Celts of an earlier colonisation, little is known of their struggle with the Gael. It is believed that the story of the sons of Umor may preserve a memory of that struggle. The "Firbolg" inhabitants of Connacht appear to have been a warlike people, and some hundreds of forts in west Connacht are attributed to them and to the sons of Umor by tradition and early history. It is considered probable that some of these people, hard pressed on the mainland, emigrated to Aran. There the fugitive chieftains and their descendants organised a polity and a system of fortified manors such as they had known on the mainland, and being little disturbed in their island kingdom, maintained their independence and an increasing prosperity for at least two hundred years.

If they practised piracy on the high seas and along the west Irish coast, the comparative wealth of these island lords could be easily understood. Their islands were admirably adapted for that, and the west coast of Ireland has hundreds of convenient creeks where raiders might land unobserved. It may well be that the fort entrances opened towards the landing-places of the islands simply to facilitate the transport of booty. In this they would only be imitating the Scandinavian sea-rovers, who, elsewhere, had carried off Irish gold ornaments, and the Gaels themselves, who had raided Ireland, and later on frequently plundered Britain.

The Aran forts form the western end of that long chain of hill forts which has its other end in Thessaly and Mycenæ. If the pre-Gaelic theory as to their origin be correct, they are also the last great monuments, in time and place, of the proud Bronze Age civilisation in Europe; an adventurous survival on forgotten islands of the Atlantic.

ANCIENT ARTS AND CRAFTS. VI
MASTERPIECES OF ROMAN SCULPTURE

BY FRANK RUTTER



MASTERPIECES OF ROMAN SCULPTURE

BY FRANK RUTTER

MR. RUTTER, who in a previous article has painted for us a vivid picture of the spirit that produced the Greek masterpieces, now turns to Roman sculpture with the excellences peculiar to it, and discusses an art which, buried as it were beneath the mighty ruins of Rome's more obvious qualities, long remained unrecognised, and has only recently been reinstated in its true æsthetic position—an archæological discovery as genuine as any.—EDITOR.

NO city is more famous than Rome, no age more celebrated than that of its first emperor, Augustus; yet no art has been more unjustly slighted than that belonging to Imperial Rome's greatest period—namely, the era which stretches from the reign of Augustus to that of Constantine.

“A decadent anti-climax to the art of Greece,” that was the old-fashioned view of Roman sculpture, which was commonly considered to be no better than a more or less feeble imitation of the sculpture of Greece. Modern research—among which must be mentioned the valuable work done by the British School of Rome—has altogether revolutionised critical opinion, and to-day it is recognised that many of the innovations which were formerly held to be the peculiar characteristics of Christian art had their origin in the despised culture of pagan Rome.

Roman art now stands out as the bridge which links the masterpieces of ancient Greece with those of the Italian Renaissance. It attempted and partially solved problems which the Greeks had avoided, problems which were not again tackled and finally conquered for nearly a thousand years. It created the “continuous style,” which became a model of monumental narrative for centuries to come, so that the spiral reliefs of Trajan's Column are the ancestors alike of Giotto's Biblical frescoes and

of Hogarth's "Marriage à la Mode" series; and finally it gave a new direction to art, substituting a search for individual character in place of the standardisation of an ideal beauty based on the regularity of proportions.

How did it come about that a race which made contributions so important as these to the progress of art remained so long uncelebrated for its artistic prowess? The old prejudice against the art of Rome was due to several causes. In the first place the Romans themselves set a bad example. While justly proud of their achievements in other fields, they were inclined—like many Englishmen—to believe that in matters of art foreigners had merits superior to that of their own countrymen. No Roman author took the trouble to write the biographies of Roman artists, and consequently the very names of the greatest Roman sculptors are unknown to us. Generous to a fault in their praise of what Greece had achieved in the past, the Romans underrated the value of the work of their own contemporaries. This example of depreciation has been widely followed.

Secondly, owing to the great changes Rome underwent in the first century—for example, the great fire of Nero—and the extensive public works carried out by Trajan in the second century and by the Antonines later, comparatively few examples of Augustan and earlier sculpture are now in existence. Further, of the few great monuments that remain the majority are in pieces, and the fragments belonging to them are scattered in different museums and in various cities.

Thus one of the noblest monuments of Augustan Rome was the Ara Pacis (Altar of Peace), set up by the Senate in 13 B.C. in honour of the emperor's victorious return from a double campaign in Gaul and Spain. The sides of this altar were decorated with allegorical reliefs and with a wonderful frieze of a procession in which the emperor, his attendants, and the Imperial family figure. Fragments of this great altar may be found in the Vatican, the Villa Medici, and the Museo delle Terme at Rome, in the Uffizi at Florence, and at the Louvre in Paris. With unwearying zeal the Austrian savant, Professor Eugen Petersen, worked for years at the patient identification of the fragments, and was eventually able to reconstruct it photographically and display its beauties in a monograph published in 1902.



Metropolitan Museum of Art, New York City.

MODEL OF SOUTH FAÇADE OF THE ARCH OF CONSTANTINE

All the grandeur that was Rome is embodied in this noble structure, with its "unsurpassable harmony of proportion." Many portions of it were taken from earlier monuments, because Constantine wished to emphasise the legitimacy of his right to the diadem by portraying himself among those earlier emperors to whom he claimed to be related.

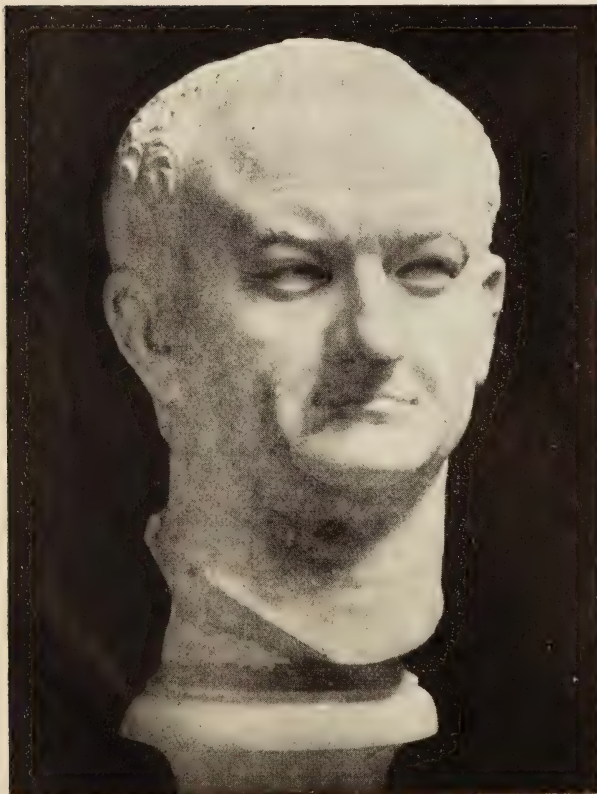


Photo by Alinari.

PORTRAIT OF THE EMPEROR VESPAIAN

This is a notable example of the manner in which the Roman sculptors of the first century anticipated the "impressionism" of the nineteenth century sculptor Rodin. The bust, in the Museo delle Terme at Rome, is altogether a masterpiece in its forceful delineation of character.



Photo by Anderson.

THE EMPEROR COMMODUS AS HERCULES

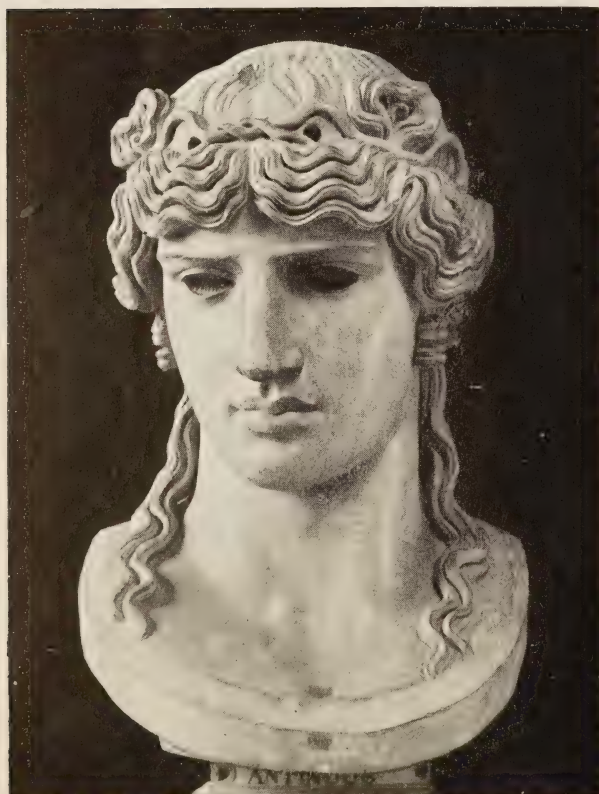
This handsome bust, in the Palazzo dei Conservatori at Rome, marks the technical advance of the later Roman sculptors, who were the first to suggest the glance of the eyes in a life-like manner. Note the undercutting in the hair and beard.



Photo by W. M. Flinders Petrie.

TRAJANIC FRIEZE ON THE ARCH OF CONSTANTINE

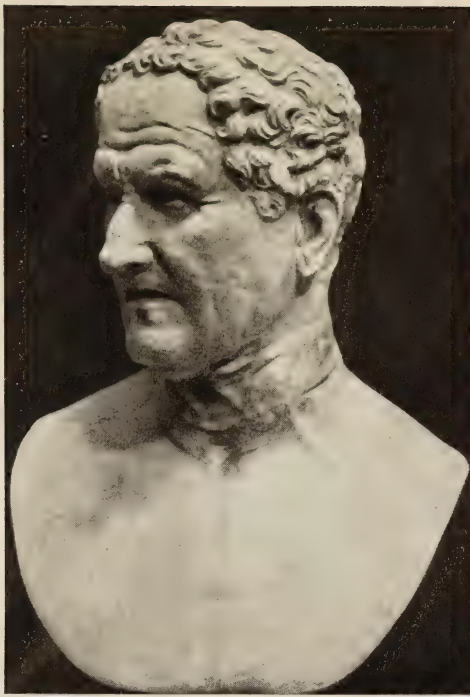
In this spirited rendering of the tumult of battle the bareheaded Emperor, with flying cloak, is shown galloping over bodies of the dead, while before him are barbarians suing for mercy. Originally designed for the decoration of Trajan's Forum, this panel, with others, was removed to adorn the Arch of Constantine. The photograph was taken with considerable difficulty, the panel being about 30 feet above the road.



Photos by Alinari (left) and Giraudon (right).

TWO VIEWS OF THE LOVELY ANTINOUS MONDRAGONE IN THE LOUVRE

This famous head, the last type of ideal beauty created by the antique world, illustrates the temporary reaction in favour of Greek ideals during the reign of Hadrian. The feminine grace of this boy's countenance has nothing in common with the virility that marks the native art of Rome, such as we see in the reliefs of Trajan's Column, or the portrait of the warlike Trajan himself. Antinous was the favourite of the Emperor Hadrian, and was drowned in the Nile in A.D. 122.



Photos by Alinari (left) and V. Bruckmann (right).

PORTRAITS OF AN OLD MAN (LEFT) AND CARACALLA (RIGHT)

The national characteristics of Roman art are impressively displayed by the bust of an old man in the Vatican Museum, which dates from the Republican period. The bust of Caracalla has been called "the most striking portrait left us by antiquity." It is in the Royal Museum, Berlin.



Photo by Anderson.

MEDALLION FROM THE ARCH OF CONSTANTINE

The Arch of Constantine consists in part of materials from an earlier period. This vivid impression of an imperial boar-hunt dates from the reign of Domitian and has atmospheric qualities similar to those of the Arch of Titus.



Photo by Alinari.

REGAL DIGNITY OF THE AUGUSTUS OF PRIMA PORTA AT ROME

The most celebrated portrait of Octavianus Augustus, first Emperor of Rome, this statue was found in the Villa of Livia at Prima Porta and is now in the Vatican Museum. It is all Roman in its dignity, but at the same time indicates the classic revival which marked his reign. Greek influence can be traced in its clear outlines and in the details of the cuirass with its allegory of the wearer's victory over the Parthians and (below) the Earth and her children rejoicing in the blessings of peace.

To perceive the pristine grandeur of a monument which time has mutilated and dispersed to this extent requires a considerable exercise of the imagination, and it is easier to grasp the peculiar properties of Augustan sculpture by the more intimate study of a detail. The beautiful altar with the plane-leaves (see illustration facing this page) in the Museo delle Terme, Rome, is a splendid example of what has been called the "illusionism" of Augustan sculpture. The bull's head, above the crossing branches, has a magnificent simplicity and realism, while the leaves themselves are modelled with a subtlety that shows not only a close observation of natural form but also an appreciation of the atmosphere that envelops and softens forms. Here is an example of one of the triumphs of the Roman sculptor—namely, his ability to create the "illusion" of reality. This was brought about largely by the suppression of a definite outline, so that, in the work illustrated, the edges of the leaves appear to melt into the air as they would in Nature.

This was the first æsthetic advance made by Rome, its conquest of an effect which the Greeks had not attempted or realised. Further progress was made in the Flavian age, and particularly during the reign of Domitian (A.D. 81-96), during whose sovereignty the triumphal arch begun by his brother Titus was completed. The Arch of Titus is one of the most imposing monuments still to be seen in the Roman Forum, and the two sculptured panels inside the arch (see illustration facing page 411) are famous as illustrating one of the most striking events in history, the capture of Jerusalem. Little notice, however, was taken of their artistic qualities until Franz Wickhoff, in 1894, startled the world of art by placing these reliefs on a level with the masterpieces of Velazquez. Commenting on the panel which shows Roman soldiers carrying off the sacred utensils from the Temple at Jerusalem, the table for the shewbread (Exodus xxv. 23), the trumpets which called the people together (Numbers x. 2), and the seven-branched candle-stick (Exodus xxv. 31), Wickhoff wrote:

"We are to believe that the people are moving there before our eyes; we are no longer to be reminded of pictures; rather, the plastic art tries to attain by its own methods the same effect as would a highly developed art of painting—the impression of

complete illusion. Beauty of line, symmetry of parts, such as a conventional art demands, are no longer sought for. Everything is concentrated on the one aim of producing an impression of continuous motion. Air, light, and shade are all pressed into the service and must help to conjure up reality. The relief has 'respiration,' like the pictures of Velazquez. But as it is the real and not painted air that filters in between the figures, it follows that all the master's art is brought to bear on such a skilful arrangement of groups as, in spite of the compression, may allow air to pass between, above, and around the figures, thus helping to supplement the modelling, even as the sunlight which, when it breaks in, awakens these figures to magic life. To allow natural illumination to contribute to the perfecting of the artistic effect was one of the boldest innovations." In this relief and in the other, which shows the emperor in his four-horsed chariot, the difficult problem of depth—that is to say of rendering the third dimension pictorially—has been almost conquered, for, owing to the skill with which the figures have been cut out of the marble block in varying depths, we seem not only to look along the line of the procession but to be able to penetrate its ranks.

While not disputing the remarkable merits of these reliefs on the Arch of Titus, Mrs. Arthur Strong, the greatest English authority on Roman sculpture, has pertinently called attention to their limitations: "That the sculptor does not yet fully command the resources of art is shown by the disproportion between the arch and the human figures, and in the absence of the most elementary laws of perspective, which might enable the sculptor to place the arch in some sort of just relation to the orientation of the procession. This is evidently conceived as passing straight in front of the spectator, yet the arch is placed in a three-quarter view, so that none of the figures are really going through it, but are passing between it and the frame of the relief."

Nevertheless, the sculptors of the Arch of Titus gave the truest rendering of space that had yet been known, and their masterpieces remained unrivalled in this respect for thirteen centuries—in fact, till the discovery of the laws of perspective in the fourteenth century began a new epoch in both painting and sculpture.

Possibly it was the failure to discover these laws which caused



Photo by Brogi.

BEAUTIFUL SLAB FROM THE SOUTH FRIEZE OF THE ARA PACIS AT ROME

A fragment of the great altar dedicated to the "Peace of Augustus" by the Roman Senate in 13 B.C. On the extreme left is the beautiful Antonia and her husband, the Elder Drusus, leading their child Germanicus. In the background an old woman puts her fingers to her lips to admonish this couple for talking during a sacred procession. The old man, third from the right, has been identified as the great art patron Mæcenas. The slab is now in the Uffizi Gallery at Florence.



Photo by Anderson.

ALTAR DECORATED WITH BOUKRANION AND PLANE-LEAVES

This altar, with its bull's head and plane-leaves, discovered near the Castello Sant' Angelo and at present in the Museo delle Terme, is a masterpiece of the Augustan "illusionist" manner. Note the simplicity and naturalism of the details and the way in which the edges of the leaves seem to melt into the surrounding air.



Photo by W. M. Flinders Petrie.

AURELIAN PANELS ON THE COMPOSITE ARCH OF CONSTANTINE

The panel on the left shows the Emperor Marcus Aurelius with one attendant (Bassæus) haranguing the attendant soldiery from a raised dais. The panel on the right depicts the Emperor's sacrifice on the Capitol in thanks for his victory. In these and other panels the original head of Marcus Aurelius has been replaced by a head resembling that of Constantine. Although these sculptures show traces of the Greek influences which had marked the reign of Hadrian, they have lost none of the Roman vigour and variety.

this "impressionist sculpture" to be only a transient phase of Roman art; on the other hand, there are not wanting critics who maintain that this search after an intensified realism was deliberately abandoned by later sculptors who considered this style ill-suited to the deliberate aims of architectural decoration.

However this may be, the fact is incontestable that the next great movement in Roman sculpture, during the reign of Trajan, shows a complete change of style. Trajan's Column, which still adorns the forum associated with his name, must always rank with the greatest creations of the human genius as shown in sculpture. From a merely material point of view it is a wonderful monument. This column is encircled by a spiral sculptured band some 217 yards long, and about one yard high, though the band increases in height as the spirals approach the top of the column to allow for the perspectival diminution. On this band, which winds twenty-three times round the column, the story of the emperor's two Dacian campaigns is told in 155 sculptured pictures containing 2,500 figures, yet these renderings of different episodes in the campaigns are so neatly dovetailed into one another that the whole forms one continuous and uninterrupted narrative.

Wickhoff, who was the first to apply the term "continuous" to this style of composition, was also the first to analyse its epoch-making character as a work of art: "Extreme naturalness of movement is here combined with an ideal treatment of time. This makes it possible to crowd victory and battle together into a narrow space. In the midst of the fray, which runs its course at one end of the design, the emperor is thundering against his enemies, while the other end is occupied by a peaceful scene in which Roma welcomes the hero and Victory crowns him. The spectator who has assimilated this work knows that a new sphere has been opened to art, and therefore will not be surprised that a narrative style which could produce such a masterpiece held its own for fifteen centuries, survived the decline of artistic power, and accompanied the revival of art among foreign peoples, because no other kind of narrative could approach it in force and vitality."

From a purely naturalistic point of view the sculpture on Trajan's Column may appear a retrogression. It will be observed that not only is the relief lower than in the sculpture

on the Arch of Titus, but that rows of figures are pressed against each other and arranged in superposed tiers. The attempt to render space is abandoned, but in its stead there is a conscious decorative aim which was afterwards to set an example and a standard to the painters and tapestry-weavers of mediæval Europe. Further, the sculptured band of the Trajan Column introduced into Europe a new story-telling art which became of supreme importance to humanity when Biblical subjects took the place of pagan triumphs. Not only did Raphael, Michaelangelo, and other giants of the Renaissance admire the drawings of the figures on Trajan's Column and openly borrow actions and details therefrom for their own works, but every story-teller in paint, from Giotto to Hogarth, owes the origin of his art to the creative genius of these unknown Roman sculptors.

Under Trajan's successor, Hadrian, there was a temporary reaction towards Greek models, which found supreme expression in the one type of ideal beauty evolved by Rome—namely, the Antinous. The obscure Bithynian youth, whose beauty made him the favourite of Hadrian, whose early and mysterious death on the Nile led to his deification, captured the imagination of the Roman world and added a new classic type to art. The exquisite Antinous Mondragone (see illustration facing page 553) at the Louvre shows the perfection of this last classic type, but it is an exotic work, so Greek in its conception and treatment that it can hardly be considered a true representative of Roman art. Roman sculpture excelled in portraiture as well as in decorative and commemorative reliefs, but its forte was not the creation of ideal types, it was the lifelike rendering of particular individuals.

Strong traces of Greek influence can be found in Antonine and Aurelian sculpture, but under Septimius Severus and his son Caracalla the native Roman art revived with a new vigour, and while the "continuous" style once more became the fashion, its effect was heightened by a new technical device. Sculptors now cut deeper and, by working away the background, figures were shown in brilliant relief against a dark niche of shadow. This strong contrasting of light and shade had a fine colouristic quality which may be seen in the portraiture of the period, as well as in the sculpture of the Arch of Constantine.

Of all the monuments of ancient Rome the Arch of Constan-



EQUESTRIAN STATUE OF MARCUS AURELIUS

The archetype of all subsequent equestrian statues, this splendidly decorative monument, standing in the Piazza del Campidoglio at Rome, holds a unique place in the history of art, naturalness of the group is in keeping with the characteristics of Roman sculpture—not imagination, but sanity, dignity, and restraint.

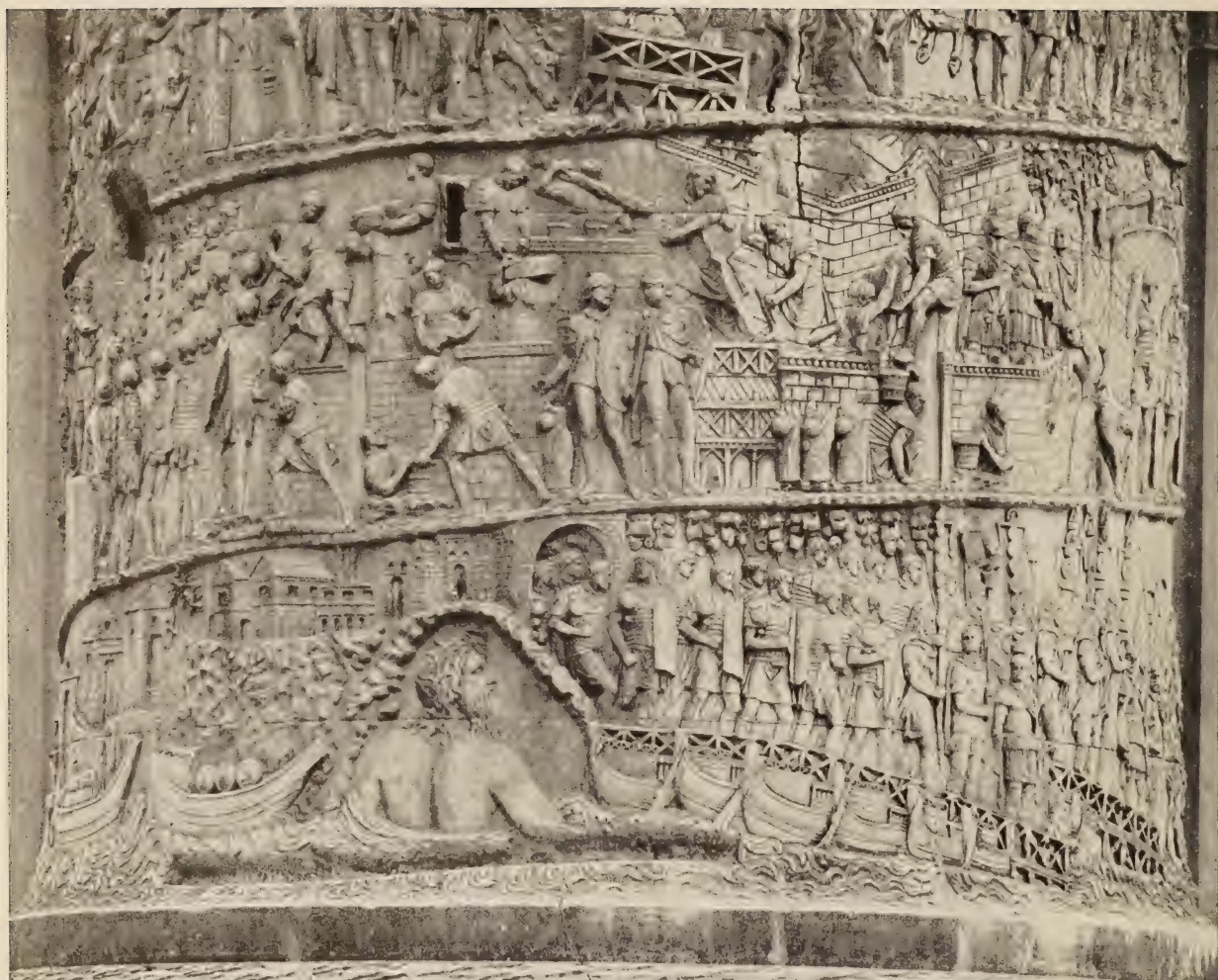


Photo by Alinari.

WONDERFUL RELIEFS ON THE LOWER SPIRALS OF TRAJAN'S COLUMN

The portion of Trajan's Column here illustrated is taken from the base and shows two of the spiral windings. On the lower band the Roman army is seen issuing from the gate of a fortified city (Viminacium) and crossing the Danube by a bridge of boats, while "Father Danube" (left centre) from his cave stretches out his right hand in encouragement. The upper band shows works of fortification in progress.

tine is perhaps the grandest in its structure and the most completely preserved. To the student of sculpture it is additionally interesting because it is an epitome of the different stages of Roman art. For this arch is decorated in great measure by sculptures taken from earlier monuments, so that on its face we can trace the progress and development of Roman sculpture. The earliest portions are the eight circular medallions, arranged in two sets of four on each front of the arch, which represent imperial scenes of hunting and sacrifice; these probably date from the reign of Domitian, and are typical of the art of that period in their impressionism and treatment of space. The medallion of the boar-hunt is especially remarkable for its lively naturalism. "The breathless gallop shown as a flight through the air, the panting pursued beast below, the attempt at foreshortening in the group on the left, are all," writes Mrs. Strong, "in the same line of artistic endeavour as the panels of the Arch of Titus."

The two slabs inside the central archway and the two which adorn the shorter sides of the attic or upper storey, though ruthlessly torn apart, form a continuous whole, which dates from the time of Trajan and relates his exploits. The rush and swirl of the whole composition is splendidly exemplified in the panel which shows the emperor, with flying cloak and bare head, charging on horseback over the heaps of dead, while barbarians meet him suing for mercy, and behind him crowd his trumpeters. "A severe design is combined with an animation unknown to previous art," says Mrs. Strong, and it was this series which inspired Wickhoff to write that fine appreciation of Trajanic art which has been quoted.

The eight smaller panels on the two fronts of the attic form part of a series of reliefs belonging to the period of Marcus Aurelius. Three other panels of this series are in the Palazzo dei Conservatori, Rome. The triumph of the emperor forms the subject of these reliefs, and among the barbarian chiefs two distinct types may be recognised—the Sarmatian, with wild and tangled hair, and the German, with round head and short whiskers. Probably these panels were removed by Constantine from the arch erected to Marcus Aurelius in honour of his double victory over the Germans and Sarmatians. While betraying the

revival of Greek influence in the sharp clearness of their outlines, these panels show remarkable variety in the composition of similar subjects and are full of drama and dignity. Striking in the simplicity of its arrangement is the "Address to the Army," in which the emperor, with one attendant, is raised high above the crowding soldiery, whose heads form a straight line at right angles to the imperial group, while the decorative effect is enhanced by the perpendicular lines of the ensigns and lances seen against the portico. These soaring upright lines also convey a sense of triumph, and a similar device was employed to the same end by Velazquez in his famous picture known as "The Lances," or "The Surrender of Breda." Finally, we have typical examples of Constantinian sculpture in the "River-gods" of the side arches and in the "Victories" at the base of the columns, all of which have the deep under-cutting and the strong light-and-shade effect which are characteristic of the period.

From the examples already given it is manifest that we can no longer regard Roman sculpture as a mere uninspired imitation of Greek models, and while admitting the great influence of Greece, it should be emphasised that the Romans had wonderful models nearer home in the masterpieces of Etruscan sculpture. These also played their part in the formation of the Roman styles, and it was perhaps Etruscan rather than Greek influence that was predominant in Roman portraiture. In this department of sculpture the outstanding achievement of Rome was its discovery of beauty in character. Here, again, the artists of pagan Rome anticipated a characteristic of Christian art and prepared the way for an art that was to be human rather than divine.

When we look at the "Head of an Old Man" (see illustration facing page 552), which experts assign to the republican period before Augustus, we learn that a searching realism was native to Roman art. Nothing could be farther from the idealism of Greek art than this early work. Another later but equally superb example of masterly characterisation is "The Shoemaker, Gaius Julius Helius" which rivals a painted portrait by Jan Van Eyck in its scrupulous rendering of the hairy wart on the left cheek.

Though the portraits of the emperors have long been used by historians for illustrative purposes, their intrinsic merit as

works of art were till recently unacknowledged. The Austrian scholar, Alois Riegl, was the first to point out the innovation in the treatment of the eye introduced in the portrait busts of the Antonines. This innovation consisted in "showing the iris as a bean-shaped segment filled with two dots to indicate the points of light." The bust of "Commodus as Hercules" (see illustration facing page 552) admirably illustrates this new departure, which permitted a more profound psychology in portraiture. It also shows the brilliant colour effect produced by the deep under-cutting of the period. A later development, also making for an increased liveliness, was a half turn of the head, as seen in the magnificent "Portrait of Caracalla" at Berlin. It has been described as "the most striking portrait left us by the antique," and for massiveness and vitality its equal cannot be found before the masterpieces of Donatello in the fifteenth century.

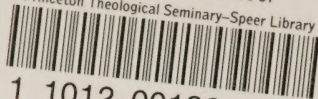
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